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Abstract

This document contains the four appendixes to the final report (SP 003 269). Appendix A contains information on the Nova Educational Complex (part of the South Florida Education Center in Fort Lauderdale) where the study was conducted. Included are outline descriptions of the Nova High School curriculum and personnel and of the physical plant and equipment; and description of the Learning Activity Packages (LAP's), the principal mechanism for individualization (a management system for learning which involves the student through multi-media opportunities in self-pacing and decisionmaking). Appendix B contains (1) code books, data bank instruction sheets and forms, and sample classroom notes for the observation instruments developed for the study: RO1--Observation of Teacher Management Behavior, and RO2--Observation of Student Interaction, Participation, and Attention Getting; (2) a modified Verbal Interaction Scale (Flanders), and (3) questionnaires used for the Nova High School Organizational Study. Appendix C contains four Functional Analysis Charts. Appendix D contains materials related to the Contingency Management Workshop: description of Contingency Management (external motivation management); workshop description and instructional sequence; and supplementary materials including the instructor guide, required materials and course guide, and tests. [Not available in hard copy due to marginal legibility of original document.] (JS)

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FINAL REPORT

Contract No. OEC-0-8-080421-4466 (010)

AN ANALYSIS OF THE ROLE OF THE TEACHER IN AN INNOVATIVE PROTOTYPE SCHOOL

PART II - Appendices

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APPENDIX A
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[*] Material presented in this section was drawn from various publications or mimeographed materials prepared by members of the Nova Educational Complex.

WELCOME TO NOVA

Nova High School is part of the South Florida Education Center, an educational complex which was created jointly by the Broward County Board of Public Instruction and a group of business and professional people from the county.

The long-range goal of the South Florida Education Center is to provide an opportunity for Broward County children to receive a superior education from Kindergarten through Ph.D. on the same campus.

Nova High School is a tax-supported Broward County school, financed by local, state and federal tax funds in cooperation with various educational institutions and foundations. The entire capital outlay and operational cost are borne by the district.

The high school, located on Forman Field in Davie, Florida, was opened in 1963 as the first phase of the education center. The school was built at a cost of 1½ million dollars. This is approximately $11.00 per square foot. The facilities included two teaching auditoriums, a Technical Science building, a Language Arts building, and a Science building, as well as two dressing room facilities for Physical Education. In 1964 the Math building and gymnasium were constructed at a cost of close to ½ million dollars at approximately $15.00 per square foot. The third addition to the school was the 1966 addition of a Technical Science II building, Science II building, Music building and the English-Social Studies building at the cost of $1, 537,819 at $20.00 per square foot. Future additions will include a cafeteria and additional dressing facilities for Physical Education, as well as a Middle School classroom building. All of the land for the Nova Schools on Forman Field was donated by the Federal Government.

Prior to the opening of Nova, many hours of study and miles of travel had taken place by the planning committee. This committee wrote the educational specifications for the high school which was published in 1962. In this instance the program dictated the specifications and the specifications dictated the facility. The committee had a prototype school in mind when it developed the specifications. As you tour the school you will see large areas, medium sized areas, and small areas built in clusters. This is the influence of the Trump Plan. When the high school opened in 1963, it was with this Trump Plan in mind. The facilities as developed were adequate for the program. The individualized curriculum of today requires us to use facilities not specifically designed for it. This has been somewhat of a handicap. Future building plans for any developmental center should be devised with development and research in mind rather than a prototype school.

The development of the Nova Plan has been aided by several grants from private and government institutions. The first grant was from the Ford Foundation and was specifically to study the possibilities of an educational center and to write the first educational specifications.

At about the same time that Nova High School was built, the Broward County Junior College, already in existence at another location, moved to new buildings constructed at the South Florida Center.

In 1965 Nova I Elementary School was opened just east of the high school complex. This school is also part of the public schools and is dedicated to essentially the same philosophy as stated previously. In fact, the Nova Schools has one single sequence, a continuous progress philosophy from K - 12. The second Nova Elementary School, Nova II, opened in the fall of the 1966-67 school year using the facilities of the old Fort Lauderdale High School. The attempt to implement the philosophy of the Nova Schools in a condemned high school building has led us to believe that such an attempt might be tried in any school facility in the country. The teachers at Nova II accepted the challenge without complaint, and provided at that school an education equal to that of Nova I with its modern facilities. Of course, the teachers were encouraged to innovate--to make the best of what was available. At the present time the Nova Schools consist of two elementary schools, Nova I and II, with approximately 1400 students, and the Nova Junior-Senior High School with approximately 3000 students, all on continuous progress education. The South Florida Education Center consists of the Nova Schools, the Broward Junior College, Nova University and the Agricultural Research Center of the University of Florida. Nova University directly West of the high school complex has completed two of their buildings and three residential halls. This exciting institution will play a progressively more important role in the future successes of the Nova Schools.

The second grant was an extension from the Ford Foundation for approximately $375,000 to develop curriculum for the Nova Schools. This grant was for a three-year period and terminated in 1967. A great variety of developmental programs were aided by this grant, such as teacher exchange programs in Broward County and teacher release time so that Nova teachers could develop materials. In this grant was a five-year research program which is being completed the first of September of this year. The research was carried on by Florida State University. The University hired researchers and staff to be housed at Nova for the five-year period to gather data and report to the Superintendent. This report should be published soon.

When the Technical Science concept of education developed, the Ford Foundation saw fit to grant $191,000 over a three-year period to develop this program. It is basically a teacher release time and research grant. None of the Ford Foundation grants have in any way been used to purchase equipment of facilities, or to pay the salaries of personnel at Nova other than release time. The Kettering Foundation gave a grant to Nova Schools under the I/D/E/A program for dissemination of Nova materials to other educators in the country. This grant existed for one year at which time it was taken up under Title III. We are now in the second year of the Title III I/D/E/A grant for dissemination.

In the philosophy was a statement about individualized education, learner-centered education and students progressing at their own rate through a series of concepts. It wasn't until the school opened and was operating that several of the departments began making attempts to comply with this philosophy. During the 1963-64 school year and on into the next school year, the Science and Technical Science departments especially were devising means to allow students to move independently of others. These were written as units, but for student consumption rather than for teacher use. Some of these early units included self-assessments for students. Other departments, such as Social Studies and English individualized by providing lateral or depth study material for students who completed the basic material ahead of the others in the class. The Math department individualized by providing a great variety of classes, each progressing at a different rate and on a different level.

Each different form of individualized instruction required a different schedule or a change in the type of schedule needed at Nova. In the first five years we have had five different systems of scheduling. Part way through the 1966-67 school year we started on the true modular schedule as developed at Stanford University. This included three types of time, such as scheduled time, schedule of unscheduled time, and unscheduled time. This is a very complex schedule, but allowed a great variety of courses to be offered to Nova students. During the latter part of this school year the curriculum leaders at Nova High School and Nova University developed a model of the first systemized individualized learning. This module is called the Learning Activity Package. The 1966-67 school year then was very important to the progress of Nova for in it we developed a modular schedule, the Learning Activity Package and the Nova Technical Science concept. This concept provides both academic and pre-employment of vocational training for every Nova secondary student. The modular schedule and the Learning Activity Package were essential to the development of this Technical Science concept. In this technical science concept a student need not decide during the ninth year if he is going into a college bound or a terminal type vocational program. At Nova, every student is in a "college bound" type program and every student is in a vocational type program.

The inception of this type program at the Nova High School resulted in two big events. The first of these was the addition of 1000 students at the high school level. This necessitated the building of the 1966 addition consisting of a new Music building, English-Social Studies building, Science building and Technical Science building. This brought the enrollment of Nova to about 3000 for the opening of the next school year.

The second big event as a result of these decisions was the invitation by the United States Office of Education for Broward County to be a member

ES'70 network of schools. Attention has been called to the Nova Schools in Broward County because of the Technical Science concept as well as the individualized education. Further explanation of the ES'70 program is available if you are interested, although the principles of ES'70 (Educational System of the Seventies) are nearly identical to the philosophy and principles of the Nova Schools.

The 1967-68 school year saw a phenomenal progress in the development of the Learning Activity Packages. In May of 1967, when ES'70 was formed at Nova, there was in existence only one activity package. In the short span of only one school year a tremendous number of these packages were developed in almost every area. Progress was so great that if this rate of development continues in the 1968-69 school year, most departments of the Nova secondary school will be totally individualized by June of 1969.

When the Technical Science concept first originated, a grant was made by the United States Office of Education for $7,500 for a planning conference of educators to explore this concept. This pre-employment conference was held in May of 1966 in Fort Lauderdale, When Nova was invited into the ES'70 network, a grant for $21,000 was made, in January, 1968, to provide a coordinator and to pay his office and travel expenses for the network. As a result of being in the ES'70 network, a Math-Science project has been funded effective July 1, 1968 in the amount of $147,000 per year for three years to write continuous progress modules of learning in Math and Science and to study the possibility of inter-relating Math and Science into one common sequence. Other schools in the ES'70 network were given grants to do the same type of study in other disciplines. Another benefit of being a member of ES'70 is the teacher role project being conducted by Nova University. This is a cooperative project involving Nova University, NEARAD, Nova High School and

Nova Elementary Schools, Sam Houston College and the Westinghouse Learning Corporation. This is a multi-million dollar grant to identify the role of the teacher in individualized education as Phase One, then to develop in-service training activity packages for teachers of individualized education and to develop an individualized education program for undergraduate teaching candidates. Phase One of this program has been funded and is in operation at the high school.

The Carnegia Foundation has funded a study and developmental grant for an Academic Games Program at Nova Schools. This has developed into an international program. Each year Academic Olympic Games are held at Nova High School, and schools from throughout the country send academic teams to compete with other teams from other school districts around the country. This year we will hold the Fourth Annual Academic Olympics at Nova on April 24th and 25th. It should be pointed out that none of these grants has provided for operational costs or capital improvement costs of the Nova Schools. The taxpayers of Broward County have carried this load and should receive full credit for it.

The Organizational Chart of the Nova Schools shows a rather unique administrative structure designed to augment the developmental research mission of the school. This developmental research center, the Nova Schools, is under the direction of the Assistant Superintendent for Instruction for the Broward County Board of Public Instruction. There is a position for a Director who has administrative and instructional authority over all the personnel and activities of the three Nova Schools. Directly under him is the Coordinator of the Nova Schools who has responsibility primarily for the instructional and supervisional program of the Nova Schools as well as being the Assistant to the Director and acting in his place when he is absent. Directly under the Coordinator are two Assistant Directors--an Assistant Director for Administration of the Elementary Schools and an Assistant Director for Administration of the Secondary Schools. The Assistant Director for Administration of the Secondary Schools has a staff of four Administrative Assistants who help him in administering the high school program. Each of these four Administrative Assistants has specific responsibilities, such as scheduling, student activities, transportation, bus loading, pupil accounting, discipline, and area supervision. Each of the four Administrative Assistants is involved in discipline with one of them specifically involved in discipline for class skipping. In our individualized plan for education, this latter specific responsibility became a necessity. The Assistant Director for Administration for the Elementary Schools has under her a Principal of one elementary school and an Intern Principal of the other elementary school. The Coordinator of the Nova Schools has a staff consisting of five Supervisors, two Content Area Department Heads, a Resource and Media Specialist, and the Director of the Guidance Program. There are Supervisors in Science, Math, English, Social Studies and Technical Science; Department Heads in Physical Education and Foreign Language. The Supervisors are responsible for the curriculum from 1 through 12. Their responsibility is not solely on the high school level; in fact, they spend more than 50% of their time in the elementary schools. This structure is essential to maintain a true 1 through 12 continuous sequence of learning experiences. Under the present organization, the next level are Team Leaders and Building Leaders.

The teaching staff is primarily divided into teams, depending on the grouping of concepts or content. These teams may consist of two members or up to six or seven members, depending on the responsibilities. Each team will have a leader. If you will visualize this organizational structure, you will see that the instructional program to include curriculum and supervision has been separated in responsibility from the administration of the schools. This is designed to allow full-time leadership in these important areas. In many traditional school systems, the Principal, who is normally the leader of the school, is inundated with administrative details and is not allowed time to become the instructional leader of the school. Because he is, in many cases, the only leader available, there is no one specifically responsible for this important part of our school system.

The instructional teams are made up of different types of personnel, such as teachers, teacher aides, assistant teachers and technicians. Each department in the high school has two teacher aides who do clerical work in addition to some helping in the classrooms. These people relieve the teacher of some of the detail work that prevents a teacher from teaching. Several of the departments elected to "give up" a teacher in order to have additional teacher aides in the classrooms. This becomes possible because of the open-lab or classroom type of instruction and of the team set-up. These teaching aides, or assistant teachers, work under the direction of a teacher at all times, but carry out many of the functions of the teacher. They act as resource persons for the students who are working on their Learning Activity Packages. They correct materials. They pass out new materials. They assist students in performing their experiments and applications, and they help to evaluate the student performance. It is possible under our present set-up to secure two such aides in lieu of one teaching position and several of the departments considered this a good move. Technicians usually work across the teams instead of within a team. They hold such positions as Electronic Technician, Data Processing Technician, Graphic Arts Technician, and Curator in the Science Department. Their job is to provide the teaching teams with the necessary materials and equipment to adequately carry on an individualized program. The Curator in the Science Department actually issues equipment to teachers and students for the conducting of specific activities as stated in the Learning Activity Package. In addition to the above staff differentiation, we are fortunate at Nova to have some college students from our nearby junior college that help the teams in many of the essential duties. Also, Nova is fortunate in receiving several interns in the content areas each year. These interns are immediately attached to teams and are given specific responsibilities under the guidance of the team leaders. Nova parents also are used as volunteers in specific cases where the need is apparent. The cooperation of our parents has been of paramount importance.

Guidance is considered very important in this type of curriculum. We have six Guidance Counselors, or one Counselor for each 500 students. As the school continues to individualize, guidance by the specially trained counselors and guidance by team leaders and team members becomes more and more important. We use our Guidance Counselors for the usual purposes; that is, individual counseling of student problems as identified by teachers and by the students. In addition, because each individual is allowed to move at his own rate, Guidance Counselors and teachers must constantly evaluate the best progress of a child and use any motivational forces available to keep the student on a steady pace. As schools in this country sophisticate their individualizing, I can foresee a great increase in the number of guidance people necessary. These people will function as advisors to specific students as well as being members of teams. Perhaps the school of the future will have three or four specially trained counselors to handle personal problems of students and then one teacher-guidance type counselor for each fifty or sixty students.

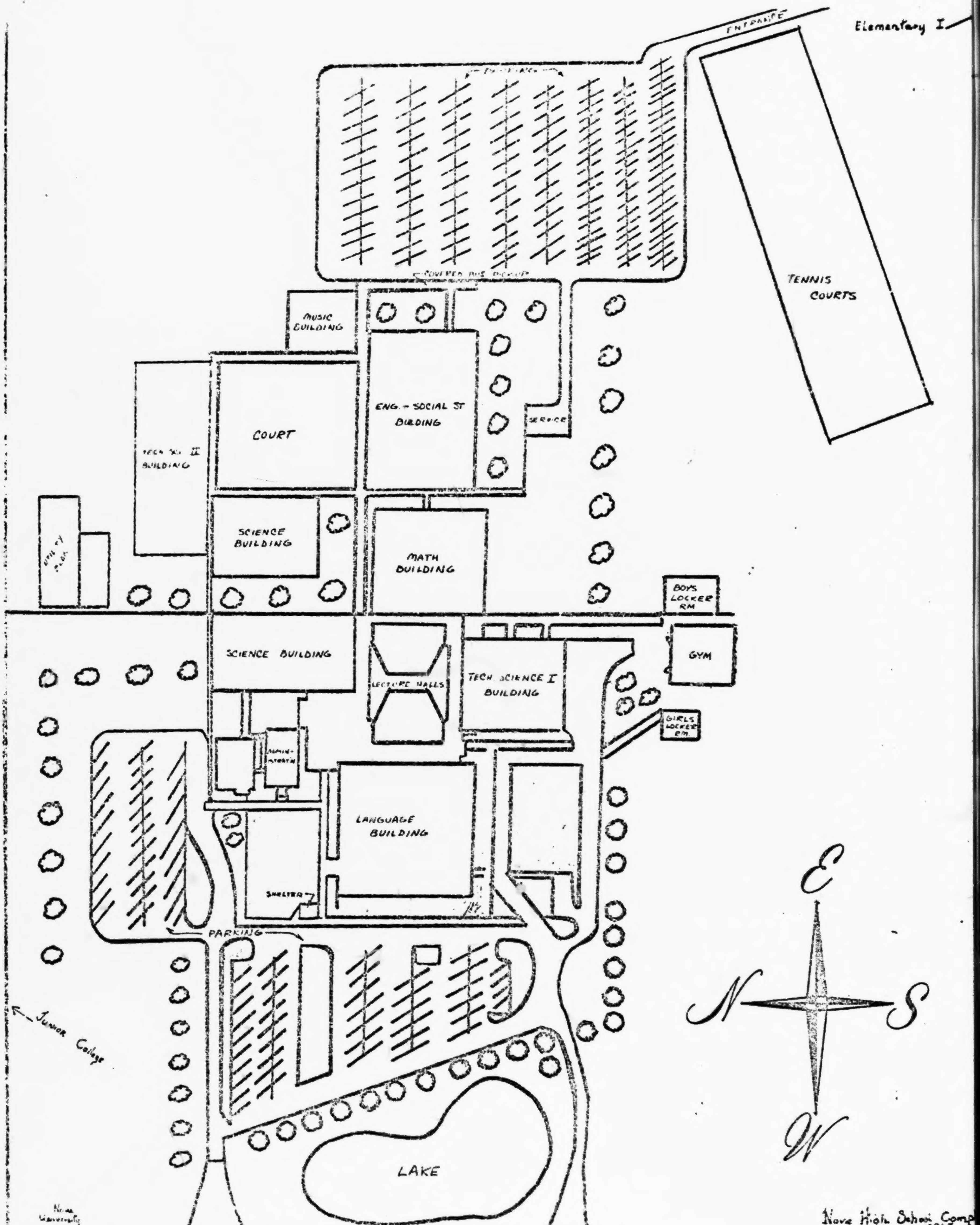
As stated before, the specifications for the Nova High School were based on the Trump type school. A closed circuit television system was designed that would put a monitor in each large and middle group area. A switching system is included that allows the transmission of programs to any single room, or combination of rooms, at a given time. Inputs to the system are from two large cameras for video tape machines, a 16mm film chain, a 35mm filmstrip and a 35mm slide machine. This is a black and white system. It is possible for high school personnel to make very sophisticated video tapes of demonstrations, experiments and functions of apparatus and machines. By use of the available equipment we can combine live and canned materials onto a video tape for later presentation, or we can tape live demonstrations for reviewing later. Broward County opened a new ITV station last Spring on the same center as the Nova Schools. We are connected to the ITV station by cable. This will add to our imput capability. We will be able to pick up programs from the ITV station, which has four channels, over our cable and distribute them to the combination of rooms that we desire. We are so close to the transmission station that the use of cable is necessary. This same TV cable connects from the Nova Television Center to the two elementary schools. There is an advantage to the cable connections because we will be able to send our programs to the ITV station for rebroadcast to all the other schools in the county over the air. This will be a very useful device in the dissemination of Nova materials to schools in the county. With individualizing processes reaching the sophisticated state that it has, the use of TV in group situations has decreased drastically. We are attempting now to find new ways of using our TV facilities in an individualized learning center.

When the Nova High School was designed, it was decided to create several resource centers in lieu of one central library. These Resource Centers are now located in the Foreign Language building, the Math building, the English-Social Studies building and the Science building. This de-centralizing plan was considered essential because of the wide variety of services available, such as dial access audio and closed circuit TV. By de-centralizing the centers, it is felt that these services are much more available to the student. Every modern technology is in use in the Nova Resource Centers. We have our own microfilm camera and many microfilm readers, so that periodical materials can be microfilmed, stored and quickly retrieved for use by the student. This saves an enormous amount of storage space. Some periodicals now provide microfilm service so that at the end of a year all the issues are available on microfilm and we have trip readers for reading this type of material. As you tour the school you will see the Resource Centers being used extensively by students. They are open into the halls in some instances. This was to make them more inviting to the student. The L.A.P. has greatly increased the demand for Resource Centers and as you travel thru the school notice the number of students that are working in the Resource Centers with their activity packages as a guide. Audio Visual equipment and materials are also stored and dispatched thru our Resource Centers.

The results of Nova --- A five year Research Study was completed the first of September 1968. The results of that study have not as yet been released to the Nova Administrators or to the public. When the results are available they will be publicized extensively. The results of Nova in Broward County can only be measured by visible evidence because of the fact that the research report has not been released. This evidence of Nova influence is becoming more and more apparent. As an example, the new high school being designed for the Deerfield area includes many of the physical features of the Nova High School. More important, however, is the fact that the program to be introduced into the new high schools will be extensively individualized. Broward County is entering into a Middle School program for grades 6-7-8. These schools are of Nova type and their program is to be totally individualized. Each new elementary school and every existing elementary school will have a practical arts and science laboratory. The eighth year math program throughout Broward County was created at Nova. All of these things are the result of Nova's existance. But more important than these concrete examples is the fact that because of Nova's existance an atmosphere of change has been created in Broward County that resulted in the passage of a $108,00,000 building bond issue and an increase in millage that will allow this county to provide quality education for every boy and girl in Broward County. The fact that the people of Broward County supported Nova to the extent that they did shows their intense interest in quality education. The success of Nova in its endeavors now is paying off the citizens in the form of quality education in all Broward County Schools.

Because the Nova Schools are a developmental research center, visitors should keep in mind that the materials and ciriculum developed is somewhat experimental in nature. We do not profess to be right in all of our experiments, but we do have the right and the opportunity to not only create but to put into practice and evaluate the results of our creation. We have probably had as many failures as successes, but in the long run those failures are just as valuable and important as the successes. As you see materials developed at Nova , realize that these were developed by teachers with full responsibility for operating a program at the same time they were developing materials. We are not attempting to design materials that are the answer to everyone's problem. Look at the materials in the light that they served their purpose at Nova. Feel free to use any parts of the materials of the whole, if desired, that will serve your needs. What I'm saying is that we don't profess to have the ultimate answer, and educators should not abrogate their responsibility for reviewing our materials in the light of changing or improving their own program. They must decide on their needs just as we have designed materials to satisfy our needs.

Prepared by Warren G. Smith, Complex Coordinator


Elementary I
ENTRANCE
COVERED BUS PICKUP
MUSIC BUILDING
TENNIS COURTS
ENG. - SOCIAL ST BUILDING
COURT
TECH SCI II BUILDING
SERVICE
SCIENCE BUILDING
MATH BUILDING
UTILITY BLDG
BOYS LOCKER RM
SCIENCE BUILDING
LECTURE HALLS
TECH SCIENCE I BUILDING
GYM
GIRLS LOCKER RM
ADMINSTRATN
LANGUAGE BUILDING
SHELTER
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E
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S
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Junior College
LAKE
Nova University
ENTRANCE
Nova High School Camp
1967
AVENUE

GENERAL INFORMATION

ON

NOVA COMPLEX AND NOVA HIGH SCHOOL

The educational specifications for Nova High School were written by educators. After these were delineated, architects were contracted to design a plant meeting these specifications.

I. Physical plant and equipment.

   A. Campus-style building area.

      1. Uni-discipline buildings grouped around multipurpose patio.
      2. Flexible, non-conventional classrooms.
      3. Acoustical floor covering.
      4. Extensive use of color on walls, lockers, furniture.
      5. Thermal control for year-round use - completely air-conditioned.

   B. Student-Parent-Teacher conference area in each building.

   C. Conference rooms - for teacher and student use.

   D. Learning laboratory - fifty fully equipped (Chester dialogue) stations in five languages.

   E. Resource Centers

      1. Five decentralized Centers with telephone communication.

         a. Language building
         b. Math
         c. Science building
         d. English-Social Studies building
         e. Technical Science

      2. Staff

         a. Four certified librarians
         b. Three library clerks
         c. Parent volunteers

3. Specific carrels (student use) for:
    a. Individual study
    b. Typing
    c. Audio dial retrieval system (Chester dialogue) access to language tapes, lectures, or musical tapes. Master control from TV Control Center.
    d. TV viewing

4. Science Resource Centers include: (See VII, F)
    a. Experimental laboratory
    b. Reading room

5. Information Retrieval Program
    a. 1000-D Filmsort Camera (microfilm)
        1. First one installed in Florida
        2. Delivers material in one minute
        3. Micro-film produced from material placed in camera
        4. Micro-film on card is then sent to data processing to be keypunched
    b. Micro-film and micro-card readers
    c. 3M Uniprinter 086 (microfilm) (Language R.C. only)
    d. Aperture cards are coded and keypunched for IBM sorter (Data processing, Old Administration building)

6. Vico-matic copier (English-Social Studies Resource Center)

7. Standard audio-visual equipment (student use)

8. Cartridge film projector

9. Film strip-record player combination (Student use)

10. Distinct atmosphere of the centers: each Center was designed to be utilized by a specific discipline.

F. Instructional Equipment for teacher stations.
    1. Overhead projector
    2. Screen
    3. TV monitor
    4. Sliding chalk boards
    5. Direct telephone line to TV Control Center

G. Mirrors - reminder to students of their appearance. Located in Science I and Language building.

II Curriculum and Personnel

A. Emphasis on "Process goals."

1. Identify continuous progress level of ability
2. Concepts form interlocking spiral ideas through experiences (ideas, skills, processes).
3. Defined in behavioral goals.
4. Student self-instruction
    a. individual responsibility
    b. individual freedom
    c. individual rate of progression
5. Self assessment
6. Teacher evaluation
7. Options - utilize own time and interest
8. Biform interest: abstract: practical
9. Use of multi-mod, multi-media, multi-activity, multi-content.

B. Team Teaching

1. Various organizations for instruction
    a. Various size grouping - small group (10-15 students), middle-sized group (50-80 students), large group (to 200 students).
    b. Identification of teaching activity for specific size group.
2. Multi-modal approach
3. Develop an atmosphere conducive to team writing of curriculum.

C. Special Programs

1. Opportunity for high school student to attend regular Broward County Junior College courses.
2. Exchange teachers from county system.
3. Interns (practice teachers):
    a. From: three area universities
    b. Internship: Sept. - Dec., Jan. - June (5 months)

4. Research - Five-year (1963-68) Ford Foundation Grant. Information released at conclusion of project.

D. Use of teacher-aides (clerical, teacher assistants)

1. Teacher aides
2. Broward Junior College students
3. Technicians
    a. TV engineers
    b. Science curator
    c. Electronics engineer
    d. Printing specialist
    e. Graphic artist
    f. Data processing specialist
4. Nova Parent Association, the "Brain Bank" used as:
    a. Resource people
    b. Assistants:
        1. reading lab
        2. resource center
        3. health clinic
        4. clerical
        5. drivers
        6. chaperones
    c. Tour guides

E. Innovation in administration: Director and three assistants for co-ordinated continuity.

1. Director
2. Assistant Directors
    a. Instruction (K-12)
    b. Administration (Secondary (7-12)
    c. Administration, Elementary (K-6)
3. Supervisors
    a. Technical Science
    b. Science
    c. Math
    d. Language Arts
    e. Social Studies

4. Data processing: Progress reports, testing data, attendance, payroll, registration, fees (done on computers at Data Processing JCBC).
5. Director of Institutional Development
6. Dissemination:

    a. Director of Dissemination
    b. Director of Community Relations
    c. Secretary (Dissemintation Materials)

F. Class schedule - modular scheduling:

1. 12 "mods" per day, 60 "mods" per week ("mod" is a thirty-minute block of time).
2. Classes are one, two, three, or four "mods" per meeting.
3. Flexible space utilization
4. Students carry minimum of six subjects per trimester.

G. Extended School Year

1. 10½ months (210 instruction days)
2. Trimester system (six weeks summer vacation). Students attend all three sessions.

H. Stanine grading system

III. Students ('67-'68: 3000 students in 7-12)

A. Voluntary admission by application
B. County-wide (no specific residential area)
C. Criteria for selection:

1. Motivation
2. Past record
3. Pro-rated on school districts for relieving over-crowded conditions.

D. Representative cross-section in terms of ability
E. Transportation:

1. Parental responsibility
2. Express busses (fee)

INFORMATION ON SPECIFIC FACILITIES
AT
NOVA HIGH SCHOOL

I. Patio

- A. Mural - designed and mounted by Nova High School Art students
- B. Four snack centers: Hours 11:15 - 2:00
- C. Upstairs patio for seniors
- D. Teacher aide on patio

II. Science I (7-10th level) Building

- A. Sixty units in science curriculum - on total sequence level, no level as such.
- B. Multi-purpose labs (4) with adjacent preparation rooms
- C. Curator
    1. Responsible for inventory, material preparation, delivery and pickup, maintenance of equipment, etc.
    2. Salary index with County
- D. Academic Games - instructional, Material designed to teach specific subject matter in a setting which is enjoyable as well as informative to students.
    1. Director and assistant to director are involved in game research, development, implementation, and the training of teachers.
    2. Nova classrooms are used to test new games.
    3. "Veteran" games used in Nova classrooms:
        - a. Social Studies (Propaganda Game, Game of Democracy)
        - b. Math (Wiff 'n Proff, Equations, On-Sets, Real Numbers)
        - c. English (Propaganda)
    4. Intramural tournaments
    5. Nova Academic Olympics - international tournament held each spring at Nova.
    6. Projects involve migrants, prison inmates, law students, emotionally handicapped, socially and culturally deprived.
- E. Bookkeeping Suite with two full-time bookkeepers.
- F. Resource Center features an Experimental Lab:
    1. Individual lab work (for safety, two students in lab at all times)
    2. Supervised by science people
    3. Reading room-in rear-advanced reference material

F. TV Control Center

    1. Two technicians
    2. Production crews: students
    3. Student production classes
    4. Every classroom capable to reception and origination of audio and video information.
    5. Closed-circuit system is 10 service channels (capable of transmitting 10 different sources of information simultaneously) Sources selected from:

        a. Two off-the-air programs (received from ETV or commercial TV), open circuit
        b. One film chain: slide, strip, Or 16 mm projector
        c. Two video tape recorders/playback (over 150 hours of tape supply)
        d. One live camera origination - portable to any campus location
        e. Audio facilities
        f. Mobile recording package, complete with TV camera, monitor, audio, video tape machine capable of both recording and playback. Unit is to be used for special individual projects - mainly for teacher in-service evaluation.

    6. Chester Dialogue Racks housing cartridge tape machines (like in cars) activated from dial stations on campus.
    7. Studio
    8. Direct telephone communications to all points on campus

G. Science Test Center

    1. When a student has completed a unit of study, he comes to this room to be tested.
    2. Managed by teacher-aide

III. Science II Building

A. Planetarium
B. TV studio - acoustically designed room

    1. Dressing room
    2. Recording studio

C. Quest Center
D. Science labs
E. Science lecture room
F. Guidance (Section of Science II) Five couselors for group counseling and for appointments with students.

IV. Technical Science I Building

- A. Nutrition and Textiles
- B. Dress Design
- C. Electronics
- D. Drafting
- E. Art

V. Technical Science II Building

- A. Prepares student publications
    - 1. Yearbook
    - 2. Newspaper
- B. Bookkeeping & Accounting rooms
- C. Steno-type and notehand rooms
- D. Typing rooms
- E. Driver's Education offices
- F. Visual Communication (produces printed Nova material - Learning Activity Packages)
- G. Photography lab
- H. Commercial Art (preparation for visual aids for staff and faculty).
- I. Engineering drafting facilities
- J. Computer room
- K. Electronics:
    - 1. Shortwave, teletype, licensed operators (students)
    - 2. Special projects
    - 3. Aeronautical technology
- L. Mechanical Technology:
    - 1. Learn personality of materials
    - 2. Law of simple motion
    - 3. Special equipment designed for universities:
        - a. flow of liquid
        - b. strain on structure
        - c. wind tunnel

VI. Music Building

- A. Choral music
- B. Instrumental Music
- C. Practice Rooms
- D. Offices(4) with library

VII. English-Social Studies Building

A. Teacher planning offices

1. Lounge
2. Clerical office
3. Individual teacher carrels.

B. Two Quest Centers with adjacent conference rooms

1. English
2. Social Studies

C. General Resource Center

D. Pupil Accounting

VIII. Math Building

A. Triad rooms - "L" shaped, two sliding walls for flexibility

B. Re source Center

C. Visually Handicapped - Braille equipment

D. Administrative Annex (centrally located for student convenience.)

IX. Language Building

A. Classrooms-flexible (lecture, middle size)

B. Conference rooms - 4 audio - notebooks

C. Quest Center

D. Language Lab

1. Five languages - French, Latin, German, Russian, Spanish
2. Chester dialogue - fifth stations
3. Audio - notebooks (4)

E. Resource Center

1. Note Openness
2. Listening Center - 4 audio notebooks

F. Reading Lab

1. The Curriculum

a. Speed reading
b. college preparatory
c. critical reading

        - d. creative reading
        - e. independent reading
        - f. directed reading
        - g. corrective reading
        - h. how to read effectively
        - i. how to listen effectively
        - j. increasing thinking skills

    2. Each student works independently at his best speed on his best level and moves up on a continuum.
    3. Reading course is scheduled by teacher, parent, or student request.
    4. Instructional equipment:

        - a. S.R.A.
        - b. E.D.L. Study Skills
        - c. Controlled readers
        - d. Listen and read
        - e. Chas. E. Merrill (Skilltapes - Skilltext)
        - f. Tach X

X. Lecture Hall Consoles

- A. Direct telephone line to TV control Center

    1. Two, 8' x 10' screens
    2. Special TV enlarger

- B. Audio dial system
- C. Projection equipment (pre-focused, remote control)

    1. film strip
    2. slide
    3. 16 mm

- D. Dimmable lighting
- E. Can be one, two, or three rooms
- F. Flexible wall motor controlled with key.

XI. Gym and Locker Rooms

- A. Gym has 2,000 seating capacity.
- B. Boys' and Girls' locker rooms separate from gym.

XII. Food Preparation Center

XIII. Book Store - operated by full-time aide. All material for students sold here.

INTRODUCTION

The Learning Activity Package is basically a management system for learning which allows the student, through a multi-media opportunity, to become involved in a diversity of learning experiences. As a student works his way through a LAP, he shares in developing his own private path of comprehension.

The Learning Activity Package is much more than a student unit; it is a sophisticated educational instrument. Within the LAP's content is structured a rationale, specific performance objectives, provision for self assessment, options for depth study, and definitive teacher evaluation. Interrelated subunits of important information keep attention directed constantly toward the main concept which is to be assimilated during such co-directed learning experience.

Probably no other aspect of Nova's program has caused more excitement than this particular approach to curriculum development. The school continues to receive numerous requests for complete "sets", "sequences", or "collections" of Learning Activity Packages. Yet, the school makes available only one "representative" LAP from each of the disciplines. Such a policy reflects the Nova Administration's conviction that significant learning takes place when teachers and students are involved in "developing" the curriculum path of learning opportunity. The teacher becomes an enabler, a catalyst, and a resource person. The student, by being an intimate part of the learning instrument, plumbs new depths of comprehensive education.

Nova will never suggest that its curriculum can be superimposed on another school system, rather that its Learning Activity Package has an underlying philosophy and content "structure", which may serve as a stimulant and guide to potential curriculum development in other schools. Likewise we feel the Nova "Progress Report" which is included in this booklet is not to be considered the answer to definitive student evaluation.

Both the LAP and the Progress Report are suggested here as explicit examples of the ongoing quest by the Nova faculty and administration to seek more meaningful educational instruments which will encourage the student in his pursuit of knowledge.

Charles E. Pipes, Director of Dissemination
Nova High School

Summer, 1968

LEARNING ACTIVITY PACKAGES

by: Arthur B. Wolfe and James E. Smith*

INTRODUCTION

Teacher planning for instruction is rising to new heights of sophistication. Ways are being developed to create an environment within which the teacher and the learner gain accelerated levels of performance. A new era of teacher planning is emerging which brings together the collective talents of the psychologists, subject matter specialists, administrators and teams of teachers. The members of this task forces are developing sophisticated plans for learning which are compatible with the current movements in education toward nongradedness and individualized instruction.

The practice of lesson planning today for tomorrow's classes is fast becoming a distant memory of a burdensome chore created for teachers. The syllabus and the curriculum guides associated with textbooks have been powerful crutches upon which teachers no longer can lean for direction and security in their daily confrontations with classes of students. More and more attention is being given to the mysteries of how, what, when and where students are most likely to learn.

Educators generally have been using the terms nongradedness and individualized instruction to describe their efforts to create group alternatives for individualized rates and levels of learning. The development of curriculum tracks is an example of an attempt to break grade levels into smaller segments. In some instances the instructional tracks have been broken into even more finite segments that move at a pace unique to itself. This type of homogeneous grouping is a considerable improvement over the standard grade level arrangement but remains a solution far from the ultimate goal of providing optimal opportunities for each student to achieve at a rate and level commensurate with his own ability and interest.

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*Dr. Arthur B. Wolfe is presently Director of Nova Schools - Dr. James E. Smith is Assistant Director of Instruction of Nova Schools.

A further deficiency in present instructional practices lies in the area of communications between the teacher and the learner. It may be claimed that time is the prime factor which prohibits adequate communications. Actually, mode is probably the greatest single deterrent. The generally practiced mode for teacher-student communications is verbalization. Recognizing losses is understanding through misinterpretation, forgetting, semantics and faulty generalizations, there still remains many voids in the understanding of the respective roles which all members of the group, including the teacher, are expected to assume in the learning situation. The uses of audio and video devices have made significant contributions in many areas of teacher-student communication, and the full potential in the utilization of these devices cannot be predicted at this time. However, the challenge remains to continue to seek new and better ways to improve teacher-student communications.

The need for providing each student with alternatives of how, what, when and where to learn, strengthening the lines of pupil-teacher communications, and utilizing efficiently a wide range of learning resources require a new dimension in instructional organization. One such dimension includes the development of "Learning Activity Packages", a design for learning whereby students are given far greater responsibilities and opportunities than ever before for learning on their own. The package provides each student with a plan for learning which includes a careful programming of a series of learning activities that leads the student through the type of educational experiences which seems most relevant to his interests and goals at any given time. In addition to a range of learning activities, the package includes a clearly defined rationale for the selection of the particular concept or major theme, a carefully selected range of behavioral goals, opportunities for student self-assessment and teacher evaluation inventories.

A Learning Activity Package

A specific goal of teachers is to assist students in assuming more and more responsibility for their own learning. To do this, beginning at the pre-school level, students need to be given experiences in making choices. The opportunities for students to determine what to study, where to study, and when to study need to continually increase as the student learns to make better decisions. Through learn to make decisions the student develops a greater sense of independence and gains valuable experiences that can be generalized for use when he completes his more formal education. The Learning Activity Package contains many points where the student must make decisions as to the content he will study, the media he will use to study, the type of activity in which he will involve himself, and the mode of instruction he prefers to use.

A student progresses through a set of learning activities at a pace unique to him and at a degree of sophistication that is appropriate to his level of ability. The slower student is expected neither to keep up nor fail. The brighter student will not have to drag his feet while the class is catching up. Students absent from school need not fall behind. Each student has the opportunity to continually progress through the Learning Activity Package literally picking up each day where he left off the previous day.

The learning activities contained within each package are systematically ordered to involve the student in experiences built around a central theme or concept. The concepts range from simple to complex and when viewed in their entirety make up the scope and sequence of a given course or discipline. The concepts in turn are divided into subconcepts, less complex ideas, which are important in and of themselves and when interrelated make up the major concept. The student in each successive package builds upon and utilizes the experiences which he has gained in prior packages.

Goals or objectives are stated in terms of the specific behavior expected to be exhibited by the student at the completion of any given learning activity. It is impossible to know whether or not a person is learning since one person cannot see what is going on inside the head of another. The teacher can, however, observe a student's behavior and infer from this behavior that he has "learned". The goals established for a student should be in terms of both the subject matter and the student's capabilities and interests. Evaluation of students' progress is achieved through direct observation of individual behavior in relation to the goals that have been established. There are students who will be able to achieve the goals prior to participating in any learning activities. They should not be coerced to study "it" all anyway. Other students will participate in only certain activities while still others will need to investigate thoroughly the entire set of activities.

Evaluation of student progress initiates from two sources. The first source is the provision of opportunities for student self-assessment. A student prior to, during, and after studying any material should have the opportunity to determine for himself his level of achievement. The student assesses his progress in relation to the specific goals that have been established. The results of the self-assessment provide the feedback to a student that will help him determine his approach to working through future sets of learning activities. The second source is the evaluation of student progress by the teacher. This evaluation might well be conducted by using existing techniques, but each child should be evaluated when he reaches a given point in the Learning Activity Package. Obviously all children will not reach this point simultaneously.

Each Learning Activity Package contains a common core of knowledges and skills through which all students are expected to progress. The typical elementary or secondary school teacher invests close to one hundred per cent of student-time in core activities to be performed by all students. Students progressing through Learning Activity Packages invest perhaps one half of their time in common core activities. During the remaining time the students pursue areas which are related to the subject being studied but are of high interest to each particular student. These activities may differ for each student. Interest activities may be of a highly abstract level, for certain students learn most efficiently and comfortably working with highly theoretical materials. Other students learn best while involved in activities of a practical or even manipulative nature. Student interest is an important motivational factor. Therefore, a variety of activities are programmed for a wide range of student interest.

Within the learning activity package a student works at a unique level of ability and pace through an ordered sequence of common "core" and "in depth" experiences to accomplish certain specific goals. However, all students do not learn equally well in a given mode of instruction, using any given media, participating in any given activity, or studying any given subject matter. Therefore the learning activity package contains a lateral approach to mode, media, activity and content. Some students will accomplish a specific goal through small group discussion, while others may accomplish the same specific goal by working individually. Some students will accomplish a given objective best by reading, others by viewing a film or filmstrip. Others may learn best through playing a game, others talking to their teacher. Some students may reach a level of understanding of a concept by utilizing a certain source, others by utilizing a completely different source.

Role of Teacher

In the more conventional classroom organization the teacher is thought of as a dispenser of knowledge. His major mode to accomplish his goals is the lecture method. The textbook is the basic tool from which he lectures. A fifty minute meeting each day is the amount of time assigned to all classes. All students are asked to cover the same material and work an identical pace.

This role is changing for teachers who utilize the Learning Activity Package approach to learning. No longer is the teacher a dispenser of information. No longer is the single text book utilized. No longer is textbook content the lecture content. No longer is the standard time block appropriate for all classes. No longer are all students required to cover the same material.

The teacher's new role is two fold. First, he is a planner of learning activities. Second, once the learning activities have been planned, he is a resource person and counselor to individual students, a specialist in small group dynamics, and an administrator of the learning environment.

The teacher and teaching teams design the Learning Activity Package. This role is a difficult one. The teacher is required to possess an authoritative knowledge of pure content. He must comprehend the scope and sequence of his discipline. Also, the teacher must understand how children learn. He must comprehend basic psychological principles. Further, he must be able to choose a wide range of materials including books, magazines, films and slides. The teacher must state his goals in behavioral terms, plan learning experiences in relation to what is known about learning, read and view a great wealth of materials and "cut and paste" these materials into a continuous curriculum.

Once the Learning Activity Package has been developed, the teacher assumes the other aspect of his role. First, he is available to the individual student as a source of information. He serves as a subject-matter specialist. Second, the teacher works with small groups of students. He is conscious of the subject-matter task that needs to be accomplished, but he is also sensitive to the processes of small groups. Third, the teacher helps guide the students through the set of learning experiences in the Learning Activity Package. The subject matter is matched with individual student needs, abilities and interests. Fourth, the teacher is an administrator of the learning environment. The time to be allocated, the technology available, the facility most appropriate, and the staffing pattern most suitable for various activities must be considered and continually adjusted by the teacher.

Role of Student

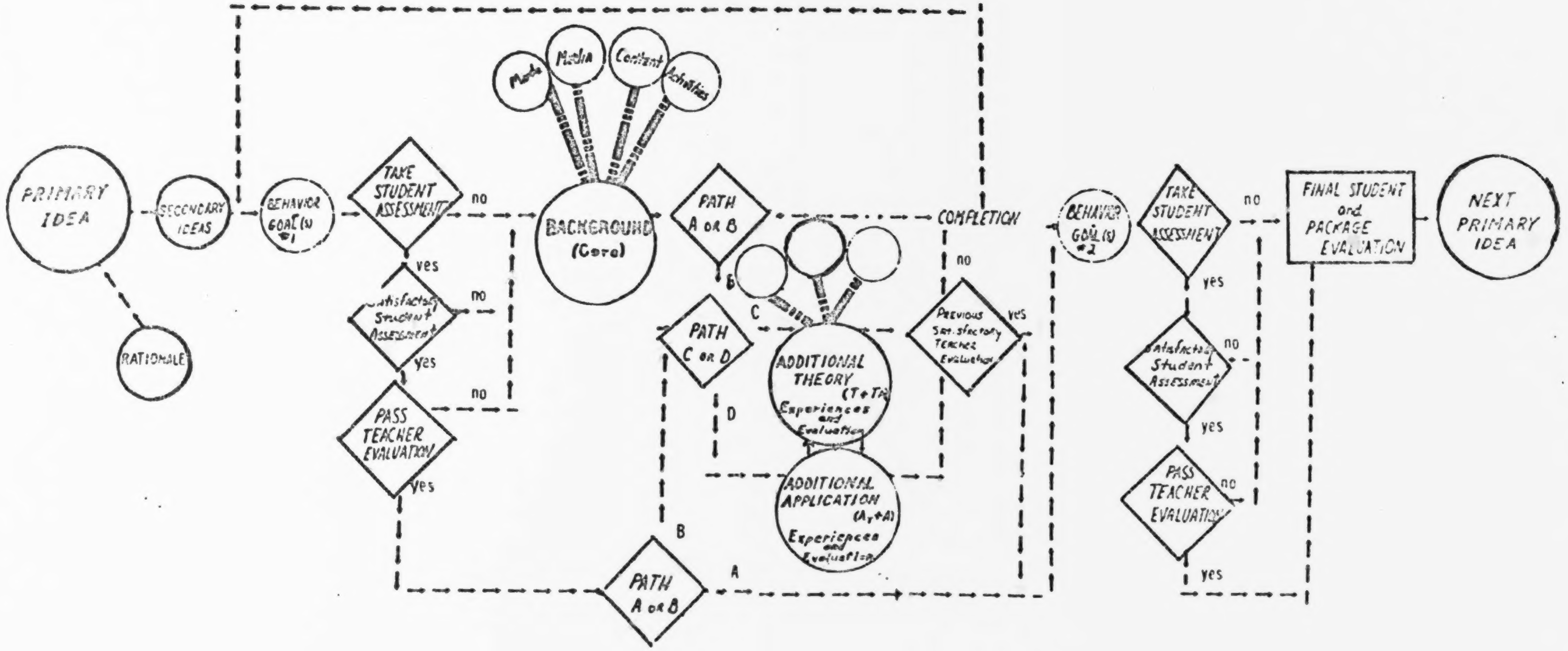
Although the teacher and teaching teams have designed the Learning Activity Package, many alternatives of what and how much is to be learned must be left to the discretion of the student. This is not to imply that the student should have complete freedom in all matters related to learning. Parameters need to be established to provide the student with guidelines and limitations. A well designed Learning Activity Package will lead a student through a series of learning activities that will be attractive and challenging. The options on which students may make decisions are focused upon activities, nature and extent of content materials, mode, media and time. The broad curriculum-design objectives are likely to be achieved as the teacher assumes the role of resource person and counselor, an ever present influence upon the learning environment. As the student achieves successes, the level of dependency upon the teacher decreases correspondingly.

SUMMARY

The development of Learning Activity Packages in the Nova Schools represents a major task for all staff members. At the present time, packages are being developed by teachers in several subject areas at both the elementary and high school levels. It is expected that a great amount of experimentation and testing will be necessary before an evaluation of this approach can be made. The current observations of students and staff clearly indicates that the Learning Activity Package approach to nongradedness and individualizing instruction represents a major improvement over all other attempts previously made in the Nova Schools to achieve these goals.

LEARNING ACTIVITY PACKAGE FLOWCHART
NOVA SCHOOLS
FT. LAUDERDALE, FLORIDA

Developed by
The Nova Staff
11/1/66


PRIMARY IDEA
SECONDARY IDEAS
RATIONALE
BEHAVIOR GOAL(S) #1
TAKE STUDENT ASSESSMENT
Satisfactory Student Assessment
PASS TEACHER EVALUATION
yes
no
Mode
Media
Content
Activities
BACKGROUND (Core)
PATH A OR B
PATH C OR D
PATH A OR B
A
B
C
D
ADDITIONAL THEORY (T+T) Experiences and Evaluation
ADDITIONAL APPLICATION (A+A) Experiences and Evaluation
Previous Satisfactory Teacher Evaluation
COMPLETION
BEHAVIOR GOAL(S) #2
FINAL STUDENT and PACKAGE EVALUATION
NEXT PRIMARY IDEA

The Multi's at Nova

*by Mr. Jan McNeil, Social Studies Supervisor, and
Dr. James E. Smith, Assistant Director, Instruction
Nova*

Among the most innovative and interesting media-oriented schools in the nation, the NOVA complex in Fort Lauderdale, Florida, has been among the most visited and written about.

Dr. Jim Smith of the NOVA staff is also among the original group who worked out the Learning Activities Package approach to systematic planning for individualizing learning.

As you will see from the accompanying article, there is much more than coincidence involved in the fact that Dr. Smith is noted for his work on the LAP idea, now being disseminated and supported by The Kettering Foundation's Institute for Development of Educational Activities. NOVA's heavy reliance on instructional media stems in very large part from the basic principles behind the LAP idea.

Dr. Ray Talbert, director of the Oregon Schools Compact, has worked closely with Dr. Smith and others in development of practical applications for Learning Activities Package. His article is a companion piece intended to detail the content, organization, and rationale of the Learning Activities Package.

The editors of ESAVG believe that this approach offers to the teacher a practical and effective means for improving and strengthening instruction and for guiding the individual learner; in that process, it is completely evident, modern media have an absolutely necessary role to play.

THE NOVA STAFF is organizing an instructional program that will permit each student to work at a pace and level commensurate with his ability and interest. The decision to organize an individualized instructional program is based upon certain well accepted assumptions. Six of these assumptions are:

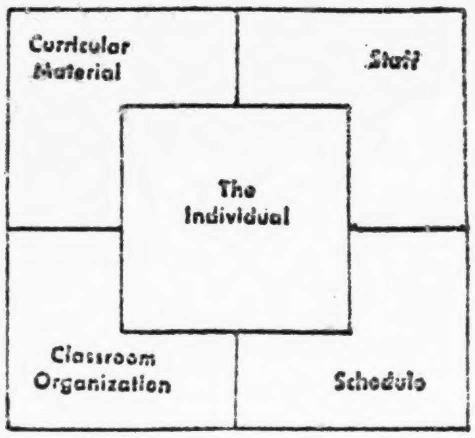
- Each student is a unique human being, with combinations of aptitudes, knowledges, achievement levels, interests, learning styles and needs, which differ from that of any other student.
- Grouping students by ability has proven to be a convenience to teachers but has not resulted in individualized instructional programs.
- Teacher centered instruction, by definition, must be directed towards the "perceived average" of a given group.
- A teacher is only one (an important one, yes) of the many resources with which the student should come in contact.
- Each student can become increasingly more self-directed by being given opportunities to make decisions relative to *what* and *how* he is to learn.
- A student receiving individual and small group teacher assistance probably will become more highly motivated.

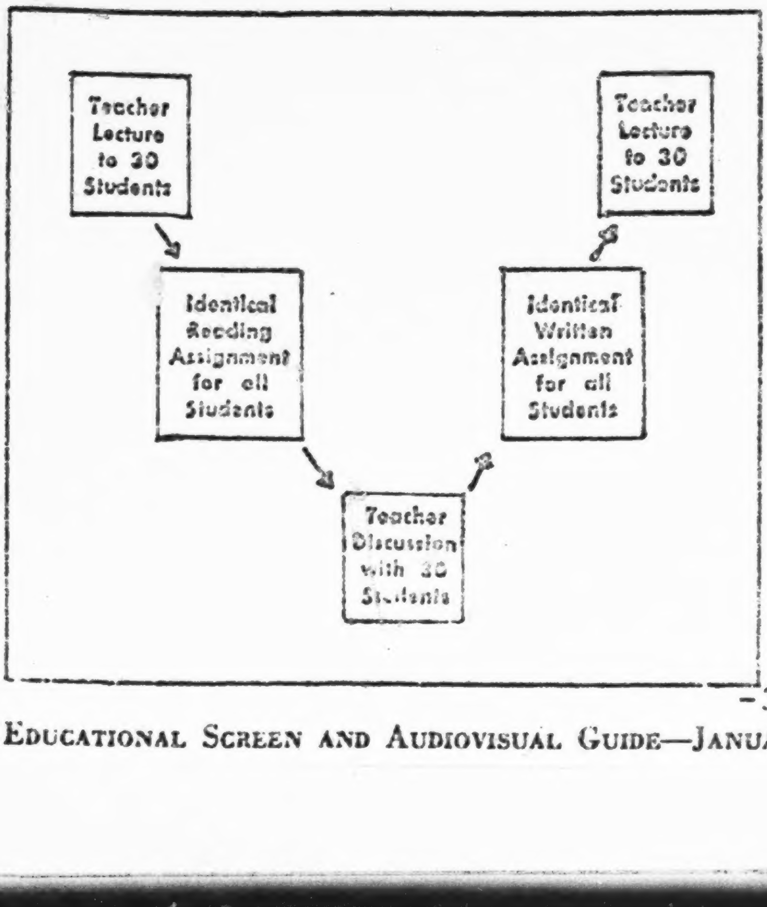
4 Major Implementation Factors

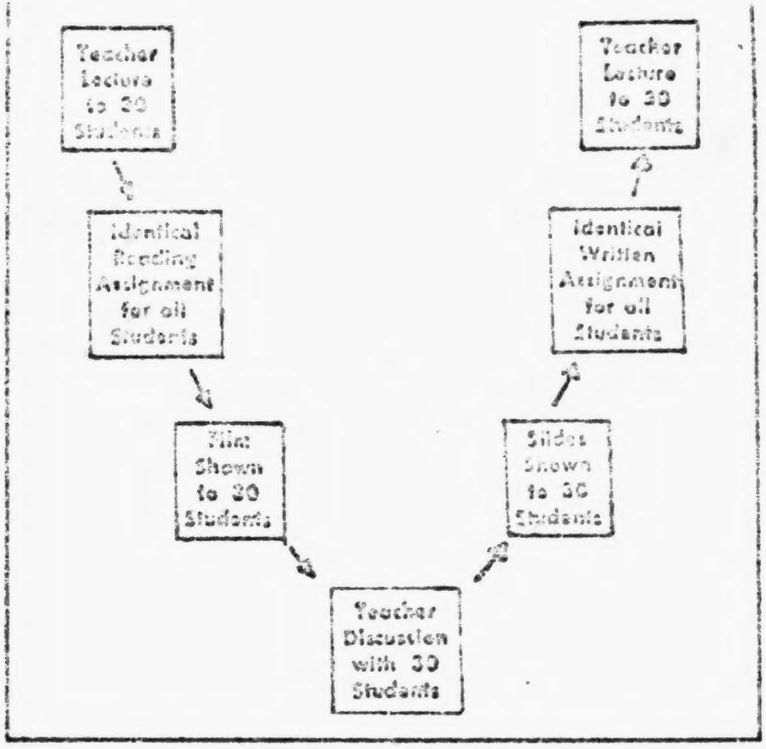
To implement this unique program of instruction the Nova Staff is considering four fundamental issues. The first three of these issues are how to properly organize the instructional staff to facilitate the individualization of instruction; how to schedule students, teachers and facilities to best facilitate the individualization of instruction; and, how to organize facilities, furniture and other physical resources so as to facilitate the individualization of instruction.

The fourth issue under consideration is that of how to best develop curricular materials that are geared to the individualization of instruction. At Nova these materials are referred to as Learning Activity Packages. The Learning Activity Package is defined as a broadly programmed set of materials that provide each student with alternatives of how, what, when and where to learn while utilizing efficiently a wide range of learning resources. The student literally works his way through a series of learning activities that are most relevant to him at any given time and at a pace and level unique to him. The package is organized around behavioral objectives. Students are provided opportunities for self-assessment as well as teacher evaluations. The package contains required and optional in-depth learning opportunities utilizing a multi media, mode, content and activity approach. The Learning Activity Package is the curricular vehicle to help facilitate the individualization of instruction. (Below)

In most classrooms throughout the country "teaching" is characterized by these three criteria: 1. All students work through a similar set of learning activities. 2. All students work through the set of learning activities at the same pace level. 3. The learning activities revolve primarily around teacher led lectures and discussions, the text book and paper and pencil.


Curricular Material
Staff
The Individual
Classroom Organization
Schedule


Teacher Lecture to 30 Students
Identical Reading Assignment for all Students
Teacher Discussion with 30 Students
Identical Written Assignment for all Students
Teacher Lecture to 30 Students


Teacher Lecture to 30 Students
Identical Reading Assignment for all Students
Film Shown to 30 Students
Teacher Discussion with 30 Students
Slides Shown to 30 Students
Identical Written Assignment for all Students
Teacher Lecture to 30 Students

The pattern for the above criteria is diagrammed as follows: (Left, bottom)

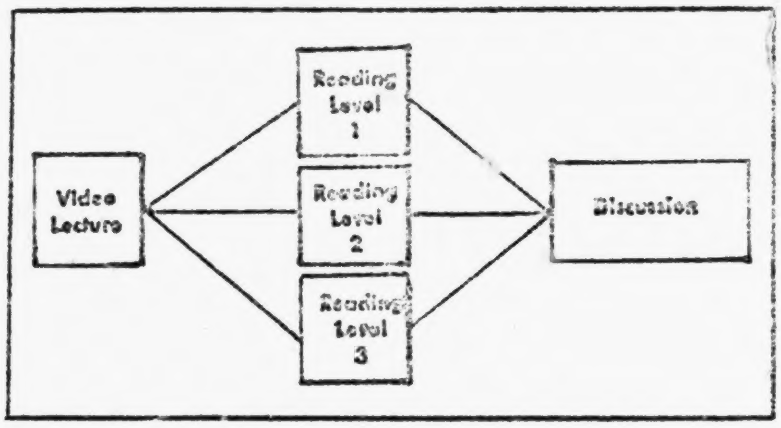
The "Multi" Approaches

The most creative teacher introduces into this pattern the use of the "Multi's"—that is multi media, mode, content and activity experiences. However, all students continue to work through a similar set of learning activities at the same pace and level and being directed at all times by the teacher. This pattern is diagrammed in this manner. (Above)

In the Learning Activity Package approach the advantages of the "multi's" can be utilize[illegible]ch higher degree. For example, the student ca[illegible]t a pace that is unique to him through a pa[illegible] similar to that above. If the lecture could be placed on video tape, the ready student merely is directed in the package to go to a "wet" study carrell, one with a video tape monitor and dialing equipment, and to dial the prescribed lecture. After viewing the video lecture he proceeds to the written assignment. When he is ready to see the film, he reports to an audio visual area where every twenty-five minutes a film is shown. Upon completing the viewing the student may place his name on the board or sign up sheet. When twelve or fourteen students have placed their names on the board or sign up sheet, the teacher will conduct a small discussion with the set of students who are prepared for the discussion, that is those that have, at their own pace, seen the lecture on video, written out the assignment and viewed the film. After the small group discussion the student goes to the audio visual area, checks out a slide projector and set of slides, and views them. The student continues "through" the activity package participating in a variety of learning activities characterized by the "multi" approach. In this example each student continues to work through a like set of activities and at a like level of sophistication, but at his own pace.

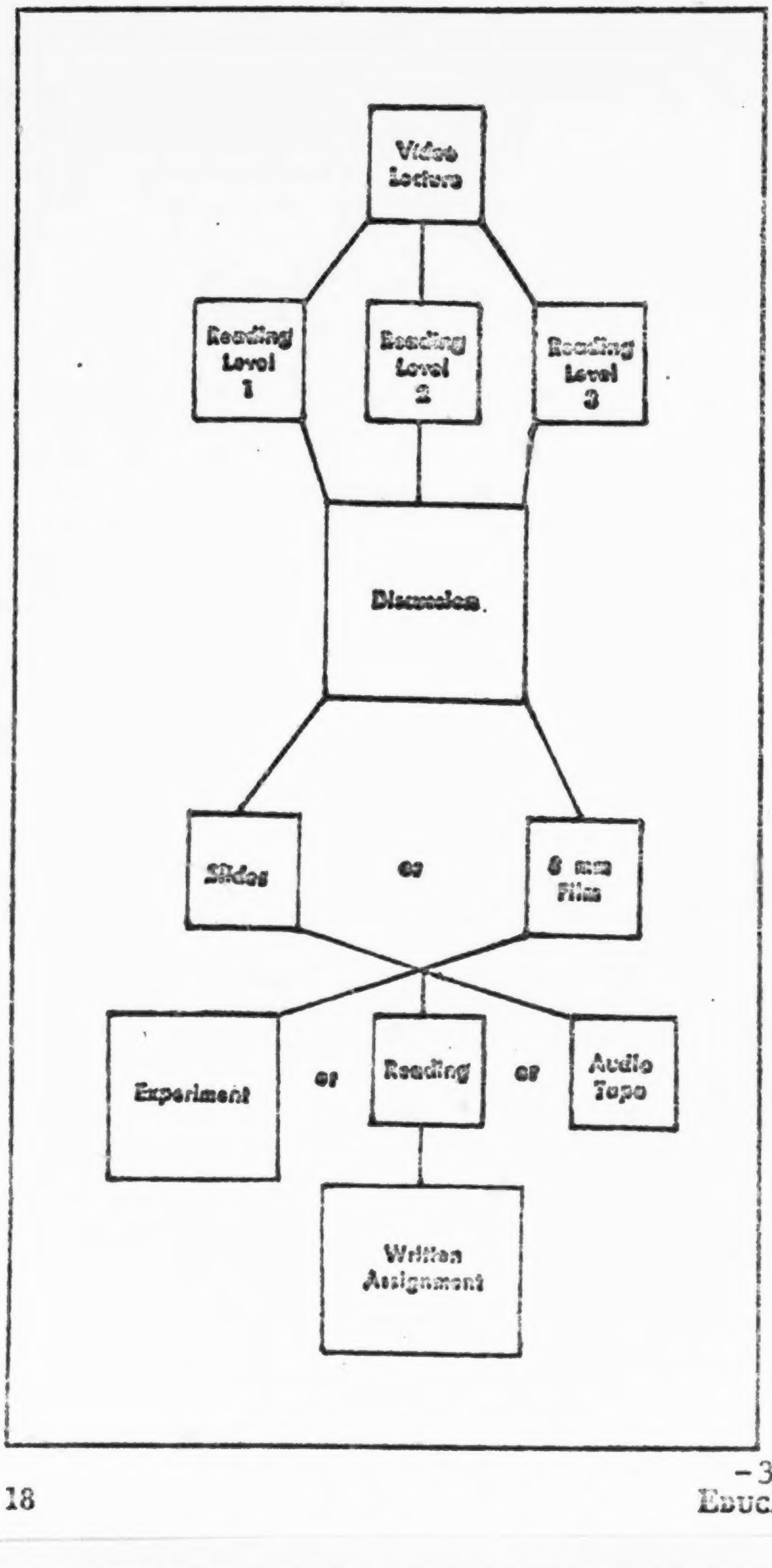
In the approach described above opportunities are still missing for the student to participate in alternate activities which might be more interesting to

continued on page 18


Video Lecture
Reading Level 1
Reading Level 2
Reading Level 3
Discussion

The "Multi's" at Nova . . .

continued from page 17


Video Lecture
Reading Level 1
Reading Level 2
Reading Level 3
Discussion
Slides
or
8 mm Film
Experiment
or
Reading
or
Audio Tape
Written Assignment

him; are geared to an appropriate level for him; are more matched with his individual learning style; or provide him with the opportunity to make decisions that affect his own education. Therefore, a variety in activities are also provided for in the package approach.

One pattern of "multi" option that is provided for in the package is diagrammed as follows: (Above, left)

In this situation the student views the lecture on video tape, then decides, on his own or in consort with his teacher, to read about a given concept from any one of three sources depending upon his reading level. Following the reading assignment the student would participate in a discussion. Each has the reading background required for the discussion.

To provide additional alternatives from which the student can select, a pattern such as this might be appropriate. The student can now literally work his way through a set of learning activities that are indeed unique to him.

The student may select anyone of several other sets of learning activities geared to his particular needs and interests. (Bottom left)

Implementation Requirements

One of the obvious implications for the Learning Activity Package approach is an appropriate environment for its implementation. At Nova High School the facilities have been organized to accommodate this type of learning environment, one of which has been designated as the laboratory.

In the minds of many educators the term laboratory connotes an appropriate place for biological and physical science curricula only. Indeed, the *American College Dictionary* defines the laboratory as "a building or part of a building fitted with apparatus for conducting scientific investigation, experiments, tests, etc."

Science laboratories, yes; but, in addition, Nova has laboratory areas in social studies, mathematics, English, foreign languages, physical education and the fine and practical arts. A concerted effort has been made to equip these areas to encourage a student, or group of students, to engage in physical, as well as mental activities, in the above subjects.

Below is a description of what a particular laboratory is like at Nova. By no means is this picture intended to be the ultimate or to place any limits on the reader's creative ability. Rather, it is intended to serve only as an example, as a point of departure. You are limited only by your own creativity and the ability of your respective school system to finance such creativity.

How the Laboratory Is Set Up

The example is a laboratory shared by social studies and English. This particular laboratory is a suite of rooms. The main room is a large, spacious area which can accommodate one-hundred students comfortably. It is divisible with sliding vinyl doors. Across the hall are two conference rooms, each capable of handling fifteen students, which are used for small group discussion, tutorials, and individual or committee-type project work. The students also have immediate access to a resource center located in the center of the same building where books, periodicals, video and audio tape carrells, copying machines, and microcard readers are located. In addition the students may be directed to one of several other resource centers where one-of-a-kind type of audio-visual equipment and materials are located.

In the laboratory, flexible-type furniture is used. The observer would find different shaped tables and chairs, some regular student desks, and individual study carrells. The conference rooms are equipped with tables and chairs. There are two large television monitors used almost exclusively for video-taped lectures of an enrichment or motivational nature. This is completely congruous with individualized instruction, since they are not aimed at a specific idea or concept but are generally applicable to a larger segment of the scope and sequence. This suite also contains ample storage space for materials such as sets of multiple texts, audio-visual materials, etc.

This laboratory is staffed with three teachers and one para-professional. The teacher-aide takes major responsibility for attendance procedures, checking out materials, administering tests and assisting students with routine questions. This frees the three teachers to work individually with students or in small groups.

A simulated laboratory situation, something approaching the ideal, might be described as follows. One might find various types of furniture and materials. Perhaps individual study carrells would be available for students wishing to study alone. Each carrell would be wired for sound to enable students to hear tapes that have been prepared commercially or by their own teachers. Each carrell could have several tape channels allowing the student his choice of a number of pertinent tapes. Each carrell might have several drawers so that each student could have one place in the laboratory to call his own. One might find tables that can seat two or three students who might wish to work together, while other furniture would be of the lounge variety for reading purposes. Book and magazine cases as well as tape drawers and programmed materials files might be located conveniently throughout the room. The indexed card catalog, a duplicate of those found in the various resource centers might be available to allow students to know immediately what books, film strips, microfilms, etc., can be found elsewhere. A rear projection device could be available for viewing, as well as a preview room for films and slides. Teaching machines for programmed material, either commercially or locally prepared, may be available for review work, drill, or even advanced work in a particular need or interest area. Computer terminals would be available for immediate information and media retrieval and for computer assisted instruction. This is just one simulation; others might vary in terms of hardware and/or software. Certainly a business education laboratory or a home science laboratory might have kinds of equipment peculiar only to that particular subject.

What's In A L.A.P.?

The opening portions of this article dealt briefly with (a) the assumptions underlying and (b) the description of the Learning Activity Package. Consideration was also given to inclusion, as an integral part of the package, the use of the "multi's." There has been no haphazard approach to the inclusion of the multi's in these curricular materials at Nova. The ideas were carefully formulated and developed. A task force searches out, and attempts to include a variety of experiences utilizing the "multi's" in each Learning Activity Package that is developed.

As examples, excerpts from three Nova Learning Activity Packages are included. They have been "lifted" from the larger framework of a package, but will show the relative importance that the multi's play.

From a social studies package entitled "Man and His World in the 20th Century" a set of instructions which states to the students:

> The activities listed in the study guide below are designed to help you meet the objectives for this section of the L.A.P. Proceeding through them in the sequence outlined will be of greatest benefit. Be sure that you have done the required *readings, viewed either of the following films*—"People by the Billions" or "The Population Problem", and *viewed the video-taped lecture* entitled "People and Technology" prior to beginning the learning activities.

This depicts the reading and viewing types of multi's used as a background information gathering technique.

From a technical science package entitled "Hardness" a behavioral objective which states to the student:

> Given an assortment of materials, select four (4) and with the *aid of a hammer and/or file, place* in a hardness order the four materials selected by arrangement of the samples in a sequence of increasing hardness.

This demonstrates the doing type of media and describes a terminal behavior based upon learning acti-

continued on page 43

The Multi's at Nova

continued from page 19

vities which included an audio tape and a reading.

From an English package entitled "Hedonism" a set of instructions for small group discussion which states to the student:

> You will *listen* to various brief pieces of music which in turn will be *matched* with short pieces of poetry in the attempt to match mood, or style, or sensual appeal, or structure. The technique will be: *Playing and listening* to the music, briefly *matching* the poems, *oral comments* on the appropriateness of the results.

This defines the parameters for a small group using a media presentation to stimulate discussion.

We could cite examples from science and mathematics Learning Activity Packages as well but space does not permit. The total staff at Nova does, however, subscribe to the notion that a variety of learning experiences, with the use of the multi's as options, does provide for a more meaningful, more well-rounded means of reaching a larger segment of the school population. The Nova Staff is firmly committed to the ever expanding use of the multi's utilizing the Learning Activity Package as the curricular vehicle to individualized instruction and the laboratory as the learning environment for its implementation.

APPENDIX B

INSTRUMENTATION

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RO$_1$ CODE BOOK

Category #	Description
	(Category numbers in the 100's indicate events in which the teacher deals with technical data or instructional media.)
1101	These are events in which the teacher prepares instructional materials to aid, instruct, or evaluate student comprehension of subject matter. Examples: 1. Teacher speaks with aide about LAP preparation. 2. Teacher speaks with Principal during the class about projected addition to a LAP. 3. Teacher prepares test for students.
1102	These are events in which the teacher searches through instructional media to answer student's questions or to otherwise aid students. Example: Teacher looks for formula in text for student.
1103	These are events in which the teacher imparts subject matter information using instructional media to enhance or assist in the presentation. If media is used which concomitantly requires the use of equipment (e.g. slides and slide projector), the equipment employed should be cross-referenced once under category 1203 with the entire span of time usage indicated in the time fields of the data bank form. The detailed variations of instructional media usage (in this case slides) are recorded as they occur in the same manner as a 1703. Examples: 1. Teacher reads paragraph from book. 2. Teacher points to word projected on screen which class repeats. 3. Teacher uses chart to explain subject matter.

RO$_1$ CODE BOOK

Category #	Description
1104	These are events in which the teacher imparts subject matter information by means of technical data as opposed to category 1103 in which the teacher imparts subject matter information with the aid of instructional media. During 1104 events, the teacher is usually silent. Example: Film strip being shown.
2101	These are events in which the teacher plans schedules or prepares materials that aid in the management of student cognition or the management of the classroom. Examples: 1. Teacher prepares evaluation cards. 2. Teacher fills out test card for student. 3. Teacher arranges students' progress cards.
2102	These events describe teacher usage of non-instructional materials or schedules which aid in the management of students and the educational environment. Examples: 1. Teacher looks for evaluation cards in her desk. 2. Teacher punches evaluation cards.

RO$_1$ CODE BOOK

Category #	Description
	(Category codes in the 200's indicate events in which the teacher deals with instructional devices or equipment in the classroom.)
1201	These are events in which the teacher copes with instructional device breakdowns by either attempting to fix or to adjust the equipment during the class period. Discussions or directions relevant to instructional device breakdowns are also coded in this category. Examples: 1. Teacher and student discuss broken earphone set. 2. Teacher tells student to use another machine in that his current typewriter is not operating correctly.
1202	Events in which the teacher readies or tries to obtain equipment for instructional use. Example: Teacher sets up Bunsen Burner.
1203	Included here are those events in which the teacher personally imparts subject matter information with the assistance of equipment. Example: 1. Teacher writes on blackboard while lecturing. 2. Teacher and students sing to the accompaniment of the piano.
1204	These are events in which the teacher uses an instructional device or other equipment in an instructional situation. Included here are those instances in which the teacher presents subject matter information via equipment as opposed to with the aid of equipment. In recording these events the equipment used should be identified. Examples: 1. Teacher uses electric saw. 2. Teacher adjusts audio tape for student.

RO$_1$ CODE BOOK

Category #	Description
2201	These events include the "housekeeping" tasks the teacher performs wherein the teacher straightens or cleans classroom facilities or resources. Example: 1. Teacher picks up paper from floor. 2. Teacher straightens desk or book shelves. 3. Teacher cleans sink.
2203	These are instances in which the teacher uses equipment to more effectively communicate systems information. Example: Teacher writes names of reading group on blackboard.
2204	These are events in which the teacher deals with equipment used to support the educational system. Example: Teacher looks at video tape camera which the school is considering purchasing.
3201	These are events in which a teacher deals with equipment which is not directly related to the educational system. Example: Teacher changes battery in student's camera.

RO$_1$ CODE BOOK

Category #	Description
	(Category numbers in the 300's deal with the teacher's logistical management responsibilities.)
1301	These are events in which the teacher deals with student related supply and distribution of instructional equipment, technical data, and personnel. The teacher can usually anticipate the nature of these events. Examples: 1. Teacher collects papers. 2. Teacher passes out books.
1303	These are events related to student supply and distribution of equipment, technical data, and personnel which cannot be specifically anticipated by the teacher before the class period. These events occur when a student suddenly needs materials in order to continue his cognitive endeavors. Examples: 1. Teacher obtains tape for student. 2. Teacher gives student new LAP. 3. "Let's get the cylinder from the supply room."
2301	These events include the supply and distribution of personnel, equipment, and technical data needed to maintain the educational system, but not directly related to cognition. Examples: 1. Teacher gives student pencil. 2. Teacher locates larger chair for student. 3. Teacher hands out textbook cards.

RO$_1$ CODE BOOK

Category#	Description
2304	These are events in which the teacher is responsible for getting students from one place to another. The teacher may either take the students from place to place or direct them to a designated place at the appropriate time. Examples: 1. Teacher takes group out of class for a small group discussion. 2. Teacher sends students to another room to listen to a lecture.
2305	These are events in which the teacher gives information about or indications of being negatively affected by a logistical breakdown or constraint beyond the teacher's control. Examples: 1. LAPS unavailable because of a printing shop backlog. 2. Testing Center behind in grading. 3. Testing Center makes error in student's grade.
2306	These are teacher related logistical events in which the teacher obtains or attempts to obtain material needed for own use. Examples: 1. Teacher gets pen. 2. Teacher leaves room to look for his glasses.
3301	These are events which deal with student supply and distribution of equipment, technical data, and personnel which are not directly related to a student's academic education. Examples: 1. Teacher leaves room to get safety pin for student's dress. 2. Teacher hands out yearbook.

Category	Description
	(Category numbers in the 1700 series deal with procedures for subject matter comprehension.)
1701	These are verbal and non-verbal rewards for subject matter achievement and/or performance. Included are high level rewards as well as any sort of encouragement (a pat on the back, hand on the shoulder, etc.) Cognitive rewards which are part of pep talks will be included under pep talks. Recording: On the Data Bank Form, short verbal rewards may be recorded as "SVR" in the Events Field if there is not time to pick up the exact wording. If at all possible, the wording should be recorded. In any case, "SVR" should only be used if the short verbal reward is listed below. Good Very good Correct Excellent Beautiful Fine Great Good job Thank you (for correct answer) Congratulations Well done Much better That's fine That's good That's interesting Good point You did well
1703	Included here are the occasions upon which the teacher personally imparts subject matter to his students pertinent to the subject being taught. This may be done by lecturing, demonstrating, explaining, giving facts, summarizing, reciting (e.g., in foreign languages) etc. When a teacher presents information by using an illustrative technique, the event should be coded under 1716 rather than 1703. Excluded are those instances in which a teacher uses other media or personnel to present information, (e.g., showing a film or having a guest lecturer speak to the class.) Recording: For the DBF, it is not necessary to indicate the subject matter content in the Events Field. If time permits, indicate the type or types of information presentation, (e.g., lecture, demonstration, summary, review, etc.)

RO$_1$ CODE BOOK

Category#	Description
1707	These are subject matter instructions and directions which a teacher uses to aid students who are having cognitive problems with specific assignments. They are frequently "how to" events. Examples: 1. "Move the slide to the left." 2. "Use the least number of wires." 3. "Play softer."
1708	These are pep talks or short motivational statements that a teacher uses to elicit a certain type of subject matter performance. 1. "Show me the nice letters that you can make." (Elementary level) 2. "You must learn this material and get it down right."
1709	These are short negative evaluative comments of subject matter performance. Examples: 1. "No." 2. "You almost had it." 3. "Not quite." 4. "It still needs some work." Non-verbal negative feedback should also be recorded under 1709, e.g., when a teacher responds to a wrong answer by immediately calling upon another student to answer the same question or shakes his head.
1712	These are questions posed by the teacher, the answers to which require subject matter comprehension by the students. These questions may be either direct or leading.
1713	These are events in which the teacher examines or evaluates a specific facet of student subject matter performance, progress, or tasks. Examples: 1. Teacher looks at student's notebook. 2. "The second line is difficult." 3. "What LAP are you on?"

RO$_1$ CODE BOOK

Category	Description
1714	These are generally short, unstructured inquiries through which a teacher attempts to determine if a student needs subject matter assistance. Examples: 1. "How are you doing?" 2. "Any problems?" 3. "Can I help you?" 4. "Are there any other problems you want to go over?" 5. "Any questions?" 6. "Do you understand?"
1715	These are events in which the teacher requests that a student elaborate or expand on a response that a student has just given. Examples: 1. "What else?" 2. "Be more specific." 3. "Give me an example."
1716	These are events in which a teacher uses an illustration or an example of the "real world" application or use of the subject matter information being presented. Examples: 1. Teacher gives an illustration of static electricity by combing a student's hair. 2. Teacher equates an electron hitting a nucleus to a tennis ball hitting a wall.
1721	These are short evaluative comments about a student's subject matter performance which indicate that the student has performed satisfactorily. Examples: 1. "Right." 2. "O.K." 3. "That's correct."

RO_1 CODE BOOK

Category#	Description
1723	These are events in which the teacher gives grading information, including grading procedures and instructions about where to find grades. An "E" should be recorded in Column 37 in those instances that a teacher tells a student his grade. Examples: 1. "You passed." 2. "Grades are posted on the board." 3. "No grades yet." 4. Teacher explains how he grades.
1731	These are events in which the teacher gives logistical information about instructional devices or materials. Examples: 1. "Your books will be here in one month." 2. "We don't have that filmstrip anymore."

Category#	Description
	(Category numbers in the 2700 series deal with procedures for maintenance of the educational environment.)
2701	These are verbal and non-verbal rewards for either a student's application to his subject matter assignment or for his support of the educational system or environment. Examples: 1. Teacher thanks student for getting material from library for her. 2. "You were the only drummer to bring your sticks."
2702	These are verbal and non-verbal punishers for either lack of application to assignments or performance which is not supportive of the educational environment. Examples: 1. Teacher takes frog away. 2. Teacher moves seats of disruptive students.
2703	Included here are the non-cognitive directions, statements, requests, and inquiries a teacher uses to manage cognition in the classroom. Examples: 1. Announcing the agenda for the day. 2. Teacher calls on student to recite. 3. "Turn the page." 4. "Take out your crayons." 5. "See the other teacher about that." 6. "Wait a moment."

Category#	Description
2704	This category includes those events in which a teacher gives information about the procedures, operations, and regulations of the educational system. Included here are departmental and administrative rules and regulations. Examples: 1. Teacher explains patio regulations. 2. Teacher explains use of resource center materials, such as the procedure for signing out tapes. Recording: Record content if possible.
2706	These are events in which the teacher uses the students to do non-logistical supportive tasks of either a short or long duration. Examples: 1. "Turn off the lights." 2. Teacher assigns student to take roll call. 3. Teacher asks students to help collate LAPS.
2707	This category includes those statements or directions that the teacher uses to either direct students to conform to the expectations of the educational system or to change a specific situation in the classroom. Examples: 1. "Move your chairs closer to the front of the room." 2. "Sit down." 3. "Get to work."
2708	These are pep talks or short motivationsl statements that a teacher uses in an attempt to elicit behaviors adaptive to the educational environment. Examples: 1. "If you would study instead of talking so much, you might pass the test." 2. "Some people have been chewing and shooting spit wads. See them stuck on the ceiling? Next week some parents are coming. It looks terrible!"

RO$_1$ CODE BOOK

Category#	Description
2709	These are events in which the teacher verbally or non-verbally attempts to control disruptive students. Examples: 1. Teacher snaps fingers. 2. Teacher shakes head. 3. "Be quiet." 4. "I'm waiting." 5. "Settle down."
2710	This category includes any occasion that the teacher has to control the whereabouts of students. Also included in this category is roll call, either silent or verbal. Examples: 1. Teacher gives permission to the student to leave the classroom. 2. Teacher questions student about being late or absent from class.
2711	These are events in which the teacher groups students. The teacher's reason for grouping may vary from effecting cognition to systems control, e.g., grouping by LAPS, grade level, by station, by size, or behavior. Example: "All those on LAP 3 go to the back of the room. Those on LAP 4 stay in front of the room." Recording: Record the type of groupings and the reason the groups were formed. If there is no obvious or stated reason for the size or composition of the group, record this in the Comments Field.
2712	These are events in which the teacher asks questions related to the educational system which do not require subject matter comprehension by the students. Examples: 1. Teacher asks student her name. 2. "Can you hear?" 3. "Did you bring your book?"

Category #	Description
2713	These are events in which the teacher examines or evaluates a specific facet of either the educational environment or the student's adaption to the environment. Examples: 1. "It looks like half the school is absent today." 2. "It's cold in here." 3. "You're wasting time."
2714	Included here are those occasions upon which the teacher threatens a student or students with punishment if the educational system's expectations (excluding cognitive performance) are not met. Examples: 1. "Once more and I will send a note home to your mother." 2. "You are not going to leave until you do something in this class."
2715	These are events which cause the teacher to alter classroom procedures for a period of time to compensate for an external systems constraint or demand. Included here are those occasions upon which someone enters the classroom while class is in session, interrupting the teacher. Examples: 1. Teacher doesn't give test because students have to have identification pictures taken. 2. Teacher's aide requests lunch count. 3. Student enters classroom to use equipment in room.
2717	Included here are those events in which a teacher responds to a student (or students) who exhibits certain physical or behavioral signs which indicate that there might be an environmental systems problem for the student. Examples: 1. Teacher sees that the student's desk is too small, so she changes his seat. 2. Teacher sees that a number of students seem to be too warm, so she adjusts thermostat.

RO_1 CODE BOOK

Category#	Description
2718	Included here are those occasions upon which a teacher requests a student to do logistical tasks requiring the collection, supply, or distribution of equipment, technical data, or personnel. Examples: 1. Teacher sends student to get book. 2. Teacher asks student to pass out papers. 3. Teacher asks student to get record player. 4. "Get Mr. Williams."
2721	These are short evaluative comments about student non-cognitive performance which are related to either the student's support of the educational environment or his adaption to the system. Example: "That looks O.K." (to student collating LAPS.)
2731	Included here are those occasions upon which the teacher makes logistical statements about non-instructional material or equipment. Examples: 1. "Give the pencil back at the end of the class." 2. "I'll go get the tests."

RO$_1$ CODE BOOK

Category #	Description
	(Categories 3701 thru 3719 are designated for affective procedures intended to shape students values, attitudes, and feelings).
3701	These are verbal rewards for affective performance. Examples: 1. Compliment about dress or appearance. 2. "I'm glad you told the truth, Janice."
3703	These are events in which the teacher imparts information or makes a statement relevant to attitude or value formation. Examples: 1. "...the poor, starving Biafrian children..." 2. "Good afternoon." 3. "That was a tremendous experience."
3704	These are events in which the teacher attempts to guide or counsel in relation to the teacher's perception of what is socially acceptable or individually advisable. Examples: 1. "Have confidence in yourself." 2. "Nice girls' don't do that."
3707	This category includes those statements or directions that the teacher uses to direct students to conform to perceived social standards. Examples: 1. Math teacher tells student to check his spelling. 2. "Get your hair cut." 3. "Apologize to Mary for your behavior."

RO_1 CODE BOOK

Category #	Description
3708	These are pep talks or short motivational statements that a teacher uses in an attempt to elicit socially adaptive behaviors. Examples: 1. Lecture on cheating 2. Pep talk about manners
3712	These are events in which the teacher asks questions related to affective behavior or performance. Included are those instances in which the teacher asks for an opinion in order to shape student attitudes, values, or feelings. Examples: 1. "What do you think a student should wear to class?" 2. "How many of you smoke."
3713	These are events in which the teacher examines or evaluates a specific facet of the students adaptive or affective performance. Examples: 1. "You always want to do the fun things." 2. "You are a daydreamer."
3717	Included here are those events in which a teacher responds to a student (or students) who exhibits certain physical or behavioral signs which indicate that there might be an adaptive problem for the student. Examples: 1. "You really don't feel well, do you?" 2. Teacher goes to student who is crying.

RO$_1$ CODE BOOK

Category	Description
	(Category codes 3720 thru 3740 are designated for procedures dealing with the more tangible aspects of the outside world).
3723	These are events in which the teacher gives information or makes a statement about the outside world. Examples: 1. "Paper costs money." 2. "I drive a Volkswagon." 3. "I didn't take logic until college. Times have changed." 4. "Several books in the library are good if you're going into office work."
3724	These are events in which the teacher attempts to guide or counsel students about such aspects of the outside world as jobs, careers, college, activities, etc. Example: 1. "The office has applications for that job.
3732	These are events in which the teacher asks a question related to the outside world. Examples: 1. "What happened to your eye?" 2. "Does anyone drive his own car?" 3. "What time did you get to bed?"
3733	These are events in which the teacher examines or evaluates a specific facet of the students "outside world" performance or a relevant situation or condition. Example: 1. "You don't know the value of money."

RO_1 CODE BOOK

Category	Description
	(Codes in the 4000's denote that category colloquially identified as "catch-all").
4700	These are events in which the main course of classroom interaction goes from student to student independently of the teacher.
4744	These are events which the observer is unable to record because they are either inaudible or incomprehensible.

RO_1 CODE BOOK

Category	Description
	(Category numbers in the 5000's are used for subjective observer comments).
5000	General comments about the Observation: Included are comments about class activity, the class assignments, and unusual circumstances or events.
5001	Equipment: A list of all equipment used in the class during the observation by the observer. Example: 1. Noise meter, Vega receiver, etc.
5003	Comments on the Teacher as Manager: Examples: 1. Is the teacher rushed? 2. Does the teacher appear to need more assistance? 3. If assistance is available, does teacher utilize it effectively?
5004	Number of Instructional Personnel in Class; General Division of Labor: The duties of each person in class who is in an instructional capacity.
5005	Teaching Style: A description of the teacher's instructional pattern or style, if discernable.
5006	General Discipline and Class Activity: These are comments which describe the students' behavior during class. Also included would be comments on student movement during the observation; for example: Are the students seated or circulating (i.e., Students have no chairs. They move freely throughout the room, yet cause no disciplinary problems).

RO_1 CODE BOOK

Category #	Description
5007	Observer Comment on Teacher's Performance that Day: Were teacher's actions and responses consistent with performance during previous observation periods.
5008	Amount of Individual Attention: Does the teacher work with the class as a whole or with individual students during the observation period.
5009	Observer Stops Recording During Observation for a Period of Time: Why and when does the observer stop recording, e.g., teacher talks to observer; observer fatigue, etc.
5010	Teacher Characteristics, Mannerisms and Views: How the teacher feels about his role, the educational environment, etc.
5011	Teacher Background Information: Teacher's educational background and/or work experience.
7000	These are events in which there is no observable teacher activity. These include occasions upon which the teacher leaves the room for a short period of time, listens to a book report, or walks around the room.

RO$_1$ Data Bank Instruction Sheet

Column 1: Category:

1 - Cognitive Acquisition
2 - Management of the Educational Environment
3 - Affective Realm
4 - Student Output and Disorienting Teacher Responses
5 - Subjective Observer's Comments
7 - No Observable Teacher Activity

Column 2: Sub-Category

1 - Technical data
2 - Equipment
3 - Logistics
7 - Procedures

Columns 3 and 4: Sub-Sub-Category (See RO$_1$ Code Book)

Column 5: Observer or Instrument:

Observer code:

B - Susan Brassard
C - Carol Corriveau
D - Margaret Damveld
M - James MacDougall

Column 6: School

1 - Nova I
2 - Nova II
3 - Nova High School

Columns 7-9: Teacher Identification Numbers.

For the High School, the numbers are the school assigned teacher numbers. Identification numbers for teachers in Nova I and Nova II were arbitrarily assigned; however, Column 7 reflects the suite/situation of the teacher as follows:

1 - Suite A
2 - Suite T
3 - Suite B
4 - Suite C
5 - Suite D
6 - Special Teacher

Columns 10-11: Month

The numeric representation of the month, e.g. February would be recorded "02", November would be recorded as "11."

Columns 12 - 13: Day

This is the numeric day of the month, e.g., the 13th of February would be recorded as "13;" the 3rd day of April, "03."

Columns 14 - 17: Time Event Began

This is the minute and hour within which an event began. For recording both the time the event began and ended and the time the observation began and ended, the 24-hour is used, e.g., 1:00 P.M. would be "1300;" for 9:30 A.M., "0930."

Columns 18 - 21: Time Event Ended

This is the hour and minute within which an event ended. Use the 24-hour scale.

Columns 22 - 24: Interaction Output

Columns 22 indicates who or what is interacting in an output capacity in this event. Columns 23 and 24 indicate quantity. The instance of a teacher lecturing would be recorded in this field as "T01."

Interaction Abbreviations:

T - Teacher
S - Student
D - Department Head/Supervisor
G - Guidance Department Personnel
P - Other Professional/Technical Service Personnel
N - Non-Professional/Technical Service Personnel
L - Principal
C - Other Administrative Personnel
A - Teacher's Aide
I - Teacher Intern
M - Parents
E - Other
O - Objects
W - Whole Class

Columns 25 - 27: Interaction Input

Column 25 indicates who or what is interacting in an input capacity in this event. Columns 26 and 27 indicate quantity. Use the same abbreviations as above. If a teacher lectures a class of 34 students, the event would be recorded in this field as "W34." Preferably, the quantity figure for "whole class" is the number of students in class that day. If this figure is not available, the number of students enrolled in the class may be entered.

Columns 28-29: Audience

This is the number of people to whom the interaction is audible excluding those mentioned in Columns 25 thru 27.

Column 30: Initiation

The purpose of this field is to indicate which event is the initial one of a given exchange and who initiated the event.

A plus sign (+) indicates that this is the first (and possibly only) event of a given exchange and was initiated by the person mentioned in the interaction output field, (Columns 22 to 24).

A minus sign (-) indicates that this is the first (and possibly last) event of a given exchange but was initiated by the person mentioned in the interaction input field, (Columns 25 to 27). A student could initiate an exchange by raising his hand, although the event would be described as the teacher (interaction output) asking the student (interaction input) about his problems, in that events are teacher oriented. This event would have a minus in Column 30.

A zero (0) indicates that this is not the first event of a given exchange.

Column 31: Continuity

Record a plus sign in this field if the interaction is between or among the same people as in the previous event.

Record a minus sign in this field if the interaction participants differ from those in the preceding event.

Column 32: Individual Considered.

Enter a "1" in this field where the needs, desires, capabilities, achievements, etc. of the individual student (s) were obviously taken into consideration.

Enter "5" if consideration of students needs, etc. appear to be irrelevant.

Enter a "9" in this field where the needs, desires, capabilities, achievements, etc. of the individual student (s) were obviously ignored.

Columns 33-35: Frequency

(During development, this field was discontinued).

Column 36: Frame

A. Activities related to occupation but neither directly related to school nor performed on school time (e.g., taking a course).

B. Activities not related to occupation but performed on assigned classroom time (e.g., writing a personal letter in class).

C. Activities not related to occupation but performed on assigned time outside the classroom (e.g., writing a letter while on patio duty).

D. Activities not related to occupation performed on unassigned school time (e.g., planning a bowling party at lunch).

E. Activities related to occupation and directly related to school but not performed on school time (e.g., chaperoning school dance, PTA meeting, etc.).

F. Activities related to occupation performed on assigned classroom time (e.g. teaching).

G. Activities related to occupation performed on assigned school time outside the classroom (e.g. hall duty, scheduled planning sessions).

H. Activities related to occupation performed on unassigned school time (e.g., tutoring).

I. Other

Column 37: Stage

This field denotes which of a teacher's activities are planning and/or preparation events, which are implementation events, which are evaluation events, and which are "other" events.

Planning/preparation activities include preparing instructional material (e.g., writing LAPs), reading professional journals (self preparation), obtaining teaching media and equipment, preparing lesson plans, etc.

Implementation activities include those in the "execution" phase of teaching, e.g., giving cognitive information, manipulating instructional devices, reinforcing or directing students, etc.

Evaluation activities are those in which the teacher evaluates student performance, gives information about the evaluations, or gives information about evaluating procedures.

Codes are as follows:

P - Planning/preparation Activities
I - Implementation Activities
E - Evaluation Activities
O - Other

Columns 38 - 42: Situation

The situation in which the observation was conducted. e.g., HLDTY (hall duty), RGGL (regular class as opposed to a lab, etc.)

Columns 43 - 45: Number of Students in Class.

The number of students in class during the observation period.

Columns 46 - 49: Course Identification Number

High School course numbers. These numbers are specified by the High School.

Column 50: Number of Teachers Teaching

Record a "1" if class was individually taught.

Record the number of teachers teaching if the class was team taught.

Column 51 - 54: Time Observation Began

Use the 24-hour scale.

Columns 55 - 58: Time Observation Ended

Use the 24-hour scale.

Columns 59 - 75: Event, Stimulus Event, Effect, Comments

Describe the above if pertinent in this field, using columns 18 through 75 of successive cards if needed. Use telegraphic language and codes.

For 5002 agenda series, comments start in Column 22 for second card.

Columns 76 - 78: Deck

This is the sequence of cards describing a single event.

FORTRAN Coding Form

PROGRAM

PROGRAMMER

DATE

PUNCHING INSTRUCTIONS

FORTRAN STATEMENT

Category	Sub-Category	Sub-sub-category	Observer/Instrument	School	Teacher Identification Number	Month	Day	Time Event Began	Time Event Ended	Interaction Output	Interaction Input	Audience	Initiation	Continuity	Individual Considered	Frequency	Frame	Stage	Situation	Number of students in class

FORTRAN Coding Form

PUNCHING INSTRUCTIONS

GRAPHIC

PUNCH

PAGE OF

FORTRAN STATEMENT

Frequency

Frame

Stage

Situation

Number of students in class

Course I.D. #

Team Taught- # of T. if T.T.

Time Observation Began

Time Observation Ended

(Start description of→
event, stimulus event (Z),
effect ($), comments(*)

Deck

Sequence

MASTER DATA BANK FORM (3d ed.)

SAMPLE OF RO$_1$ CLASSROOM NOTES

(EXCERPT OF 8 MINUTES)

Observer: Carol Corriveau
Teacher: 000
School: High School
Date: November 18, 1968
Course: Social Studies (4163)
Total Time: 13:55 - 15:00

2:22 SQ-1712, NA, 1712, SA, 1703

2:23 1712, SA, 1703 (2SS)

2:24 SQ- T gets paper for S (1303)
SQ-1703
TQWC- Do I have five people who want to see video tape (2712)
TWC- Bring your books (2[illegible]7)
SQ-1704
TQWC- Anyone else for video tape (2712)

2:25 T to 1S - Throw out your gum (2707)

2:26 T to 2 SS - Go to Math Resourse Center to see tape (1704), ask Librarian for tape (2704)

2:27 SQ-4744

2:28 TQS- What's your problem (1714), SQ, 2703

2:29 SQ- T gets LAP for S (1303), SQ, 2703

2:30 SQ- T gets LAP for S (1303)
SQ- T gets LAP for S (1303)
SQ- T gets LAP for S (1303)

FORTRAN Coding Form

CC

DATE Nov. 18

PUNCHING INSTRUCTIONS

FORTRAN STATEMENT

```
1 223 30[illegible]1 11S11 22142 2791S 0101- -1001 FIRGCL L 05341
1713                            0+
1723
1713          14231423
1743
1753          14241424      00--
1763
2713                      W53   +  5
              WANT TO SEE VIDIO TAPE-
2743                            0+
1733                      S01   --1
2713                      W53   +  5
              VIDIO TAPE-
2707          14251425    S01      1
1[illegible]4 14261426    S02
2704                            0+
4701          14271427    S01   --
1714          14281428          +
2703                            0+
1[illegible]3 14271427          --
1713
1203          14[illegible]1430
1[illegible]
1[illegible]
```

FORTRAN Coding Form

/ov. 18	PUNCHING INSTRUCTIONS	GRAPHIC PUNCH	PAGE 5 OF 9

FORTRAN STATEMENT

```
001 FIRGCL 053 41632 13551 500 $NSA——— [illegible]
                               $SA——————————————098
                               ——————————————————099
                               $SA———————————————100
                               ——————————————————101
                               T GETS PPR FOR S  102
                               ZSQ———————————————103
                               DO I HAV S SS WHO 10[illegible].1
O TAPE————————————————————————————————————————— 10[illegible].2
                               BRING UR BKS———— [illegible]
                               ——————————————————10[illegible]
                               ANYONE ELSE FOR——10[illegible].1
                               ——————————————————10[illegible].2
                               THROW OUT UR GUM—11[illegible]
                               C TAPE IN RC——————111
                               ASK LIBRN 4 TAPE  112
                               ZSQ———————————————113
                               WHATS UR PROBLEM  114
                               ZSQ———————————————115
                               T GETS LAP FOR S  116
                               ZSQ———————————————117
                               T GETS LAP FOR S—118
                               T GETS LAP FOR S—119
                               T GETS LAP FOR S—120
```

RO$_2$ CODE BOOK

Category #	Description
	(Category numbers in the 5000's are used for subjective observer comments).
5000	General comments about the Observation: Included are comments about class activity, the class assignments, and unusual circumstances or events.
5001	Equipment: A list of all equipment used in the class during the observation by the observer. Example: Noise meter, Vega receiver, etc.
5003	Comments on the Teacher as Manager: Examples: 1. Is the teacher rushed? 2. Does the teacher appear to need more assistance? 3. If assistance is available, does teacher utilize it effectively?
5004	Number of Instructional Personnel in Class; General Division of Labor: The duties of each person in class who is in an instructional capacity.
5005	Teaching Style: A description of the teacher's instructional pattern or style, if discernable.
5006	General Discipline and Class Activity: These are comments which describe the students' behavior during class. Also included would be comments on student movement during the observation; for example: are the students seated or circulating (i.e., Students have no chairs. They move freely throughout the room, yet cause no disciplinary problems).

Category #	Description
5007	Observer Comment on Teacher's Performance that Day: Were teacher's actions and responses consistent with performance during previous observation periods.
5008	Amount of Individual Attention: Does the teacher work with the class as a whole or with individual students during the observation period.
5009	Observer Stops Recording During Observation for a Period of Time: Why and when does the observer stop recording, e.g., teacher talks to observer; observer fatigue, etc.
5010	Teacher Characteristics, Mannerisms and Views: How the teacher feels about his role, the educational environment, etc.
5011	Teacher Background Information: Teacher's educational background and/or work experience.
	(Category numbers in the 7000s are used for analyses of individual student-teacher interactions.
7008	Number of Students With Whom Teacher Interacted: The number of individual students with whom the teacher interacted compared with the total number of students in class (20 out of 30 ss). These interactions exclude those of a brief diciplinary and/or control nature.
7009	Number of Times Each Student Interacted With Teacher: e.g. 2 students interacted with three times (2SS3X) 4 students interacted with two times (4SS2X)

Category #	Description
7010	Initiator of Interactions: Recorded first is the number of individual student-teacher interactions not of a brief disciplinary and/or control nature initiated by each of the following: the teacher (T), the student not seeking materials or logistical support (S), and the student seeking materials or logistical support (M). Example: Of the total number of interactions, 19 were T initiated, 12 were S initiated, and 3 were M initiated (TI=19T, 12S, 3M). Recorded next is the number of interactions with each student described in terms of who initiated the interactions, e.g., of those students who had four interactions each with the teacher, one of the students initiated one of the four interactions while the teacher initiated the other three. Two students both initiated two of the four interactions, while the teacher initiated the remaining two (4I=1XTTTS, 2XTTSS).
	(Category numbers in the 4000s are used for events which indicate the extent of student participation in the classrooms cognitive activity).
4706	Non-participating or Disruptive Student Events: Instances of students either being disruptive or disinterested in the cognitive classroom activity. Example: 1. Student enters room late. 2. Student reads magazine. 3. Students pushing each other.
4707	Participating Student Activities: The extent to which the class as a whole seems to be participating in or attentive to the subject matter assignment. Examples: 1. One-half of class listening to teacher. 2. One-half the class working on LAPs.
4712	Noise Level: This is the relative noise level recorded on a 1 to 9 scale when the noise meter is not used, and recorded in terms of the meter reading when it is used. Example: 10:20 - Noise level, 9. 10:30 - Noise level, 5.

4716	Students Seeking Teacher's Assistance or Attention: This is not recorded unless the student has been actively seeking aid for approximately 15 seconds. In the DBF Time Event Began field the time at which the student first tried to get the teacher's attention should be recorded. In the Time Event Ended field, the time at which the teacher finally saw the student should be recorded. If the teacher never interacted with the student, four zeros should be entered in the Time Event Ended field.
4717	Student Seeking Materials: These are instances in which the students either are obtaining materials that they need for completing class work or instances in which they are involved somehow altering the material so that it will be suitable for the class assignment. Examples: 1. Three students get books. 2. Four students stand at sink to wash paint off hands.

RO_2 Data Bank Form Instruction Sheet

General Instructions: Slash all zeros in order to differentiate from the alphabetic "O", (O). Columns 1 through 17 remain the same for every card describing an event. These are the items which make an event unique.

Columns 1 thru four contain the category code.

Columns 1-4: Category Code. These codes are described in the RO_2 Code Book. The general categorization is as follows:

4000 - Descriptions of the extent of student participation
5000 - Subjective observer comments
7000 - Analyses of the student-teacher interactions

Column 5: Observer Code.

E - Mary Calegari
F - Natalie Fierro
M - James MacDougall

Column 6: School.

1 - Nova I
2 - Nova II
3 - Nova High School

Columns 7-9: Teacher Identification Number.

Columns 10-11: Month.

This is the numeric representation of the month (e.g., February would be "02").

Columns 12-13: Day

This is the numeric day of the month (e.g., the 13th of February would be recorded as "13").

Columns 14-17: Time Event Began.

For recording both the time and duration of the event and the observation, the 24th hour scale will be used (e.g., 1300 for 1:00 PM; 0930 for 9:30 AM.

Columns 18-21: Time Event Ended.

This is the hour and minute within which an event ended. For category 4716 (Students seeking teacher's assistance or attention), indicate the length of the wait by recording the minute in which the student finally received attention. Record 0000 if no attention is received.

Columns 22-37: No Entry.

These columns remain blank on the RO_2 Data Bank Form.

Columns 38-42: Situation

Indicated here should be the exact situation in which the observation was made. (e.g., HLDTY (hall duty), RGCL (regular class as opposed to lab, etc.).

Columns 43-45: Number of Students

This field indicates the number of students in class.

Columns 46-49: Course Identification Number.

Columns 50: Number of Teachers in an instructional capacity in the classroom:

Record a "1" if class was individually taught.

Columns 51-54: Time Observation Began.

Use 24-hour scale.

Columns 55-58: Time Observation Ended.

Use 24-hour scale.

Columns 59-75: Event, Stimulus Event, Effect, Comments

Describe the above if pertinent, using columns 59 through 75. Use telegraphic language and codes. If more than one line is needed, begin the comments in the successive lines in Column 59.

Columns 76-78: Deck

This is a cataloging field denoting the information on punchcards to appear on the print-out as it is.

Columns 79-80: Sequence

This is the sequence of cards describing a particular event.

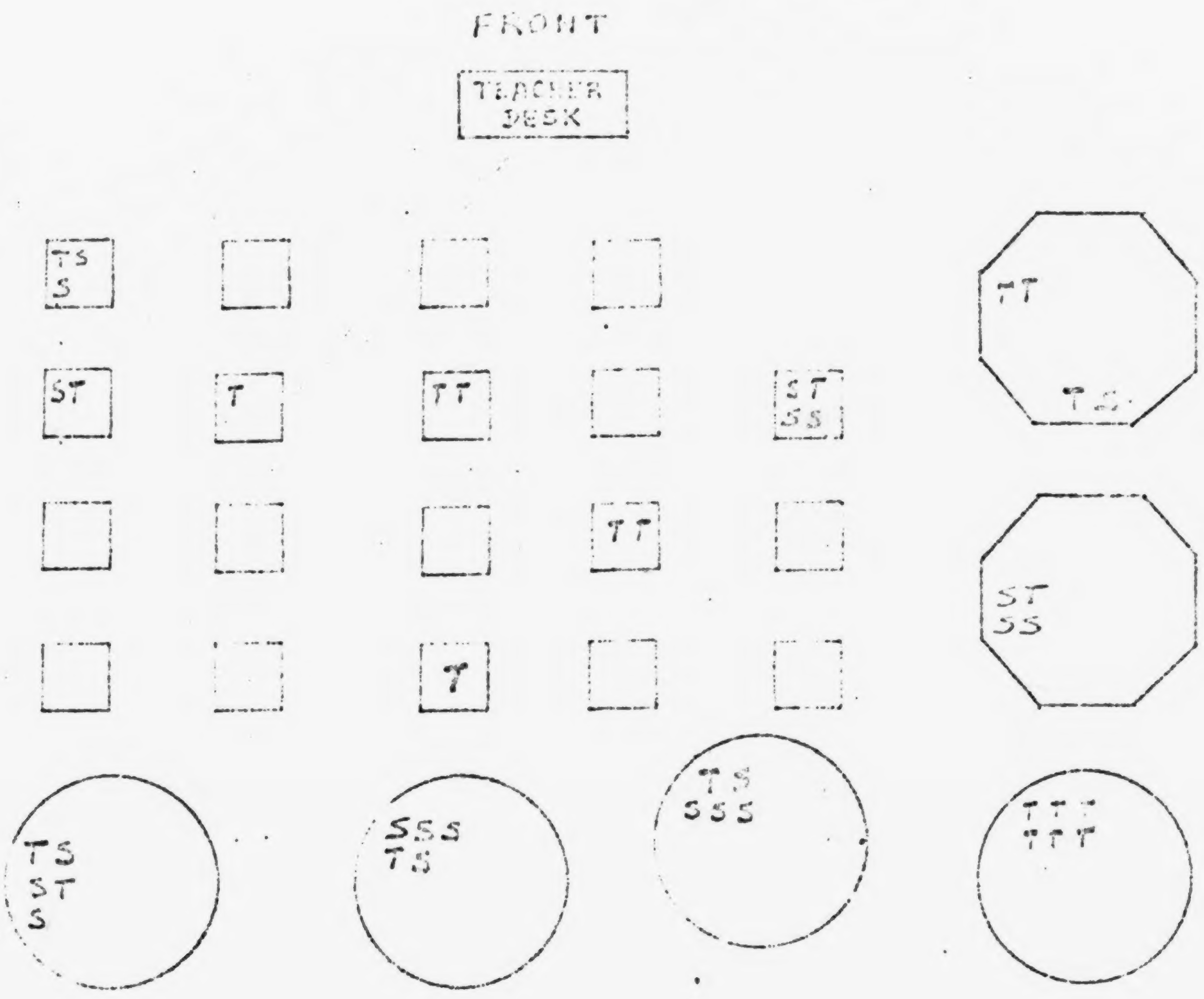
SAMPLE OF RO_2 CLASSROOM NOTES

(EXCERPT OF 8 MINUTES)

Observer: Mary Calegari
Teacher: 000
School: High School
Date: November 25, 1968
Course: English (1120)
Total Time: 10:48 - 11:49

10:52	- 10:54	Student combs hair
10:53		Most students working on assignment
10:54	- 10:56	2 Students talk
10:55		02
10:57		3 Students turn pages
10:58	- 11:01	2 Students talk
11:00		02
11:01	- 11:07	Student waits at teacher's desk
11:02		2 Students talk
11:07	- 11:11	Student waits for teacher
11:10		02
11:11		Student comments loudly
11:12	- 11:15	3 Students talk
11:15		02
11:16	- 11:19	All students write
11:19	- 11:20	Student waits for teacher

11:20 - 11:23	Student waits at teacher's desk
11:20	Student calls out to teacher
11:23 - 11:24	Student waits at teacher's desk
11:25	02
11:26 - 11:28	Class working
11:28	Student throws pencil to another student


FRONT
TEACHER DESK
TS S
ST
T
TT
ST SS
TT
TS
TT
ST SS
T
TS ST S
SSS TS
TS SSS
TTT TTT

Room M9

TI = 23T, 21S

1I = 2T

2I = 3XTT, 2XTS

3I = 1XTSS

4I = 2XTSSS

5I = 1XTTSSS,
2XTSSSS

6I = 1XTTTTTT

SAMPLE OF RO$_2$ INTERACTION RECORDING

FORTRAN Coding Form

MS

DATE 11/25/68

PUNCHING INSTRUCTIONS

FORTRAN STATEMENT

[illegible]	[illegible] REAL 914112
	1052
5726	1054 1056
4712	1055
[illegible]	1057
[illegible]	1058 1101
[illegible]	1100
[illegible]	1101 1107
[illegible]	1102
4716	1107 1111
4 2	1110
	1111
	1112 1115
4712	1115
4709	1116 1119
4716	1119 1123
4716	1120 1123
[illegible]	
[illegible]	11[illegible]
	1125
[illegible]	11[illegible]
[illegible]	1128

FORTRAN Coding Form

/25/68	PUNCHING INSTRUCTIONS	GRAPHIC	PAGE OF
		PUNCH	CARD ELECTRO NUMBER

FORTRAN STATEMENT

```
RGCL 014 11201 10481 1495 COMES HAIR          01400
                           MOST SS WORKING    01501
                           ON ASSIGNMENT      01602
                           2 SS TALK          01700
                           02                 015
                           3 SS TURN PAGES    019
                           2 SS TALK          020
                           02                 021
                           S WAITS AT T DESK  022
                           2 SS TALK          023
                           S WAITS FOR T      024
                           02                 025
                           S COMMENTS LOUDLY  026
                           3 SS TALK          027
                           02                 028
                           ALL SS WRITE       029
                           S WAIT FOR T       030
                           S WAITS AT T DESK  031
                           S CALLS OUT TO T   032
                           S WAITS AT T DESK  033
                           02                 034
                           CLASS WORKING      035
                           S THROWS PENCIL    03601
                           TO ANOTHER S       03602
```

EXCERPT FROM CODED RO_2 OBSERVATION

VERBAL INTERACTION SCALE

Observer ____________________ Location ____________________ Page No. __________

Date ____________________ School ____________________ Of __________

Time In ___Time Out _______ Grade ____________________ Teacher __________

Observation No. __________ No. Ss ____________________

VERBAL INTERACTIONS

CATEGORIES FOR VERBAL INTERACTION

1. Accepts Feeling: Accepts and clarifies the feeling tone of the students in a nonthreatening manner. Feelings may be positive or negative. Predicting or recalling feelings are included.

2. Praises or Encourages: Praises or encourages student action or behavior. Jokes that release tension, not at the expense of another individual, nodding head or saying, "um hum?" or "go on" are included.

3. Accepts or Uses Ideas of Student. Clarifying, building, or developing ideas suggested by a student. As a teacher brings more of his own ideas into play, shift to Category 5.

4. Asks Questions: Asking a question about content procedure with the intent that a student answers.

5. Lecturing: Giving facts or opinions about content procedure, expressing his own ideas, asking rhetorical questions.

6. Giving Directions: Directions, commands, or orders to which a student is expected to comply.

7. Criticizing or Justifying Authority: Statements intended to change student behavior from nonacceptable to acceptable patterns, bawling someone out, stating why the teacher is doing what he is doing, extreme self-reference.

8. Ignores or cuts student off.

9. Student Talk-Initiation: Talk by students which they initiate. If "calling on" student only to indicate who may talk next, observer must decide whether student wanted to talk. If he did, use this category.

10. Student Talk-Response: Talk by students in response to teacher. Teacher initiates the contact or solicits student statement.

11. Silence or Confusion: Pauses, short periods of silence, and periods of confusion in which communication cannot be understood by the observer.

NOVA HIGH SCHOOL

ORGANIZATIONAL STUDY
(Form I)

Your role as a teacher is defined to a large extent by your interpersonal contacts. This form has been developed so that you may quickly summarize the people to whom you talk about getting your job done as a teacher. In any system there are people that we talk to about particular matters. We may talk to different people about different problems. For the purpose of this form, we are only interested in the people you go to when you want to talk about a particular kind of problem.

Think about the people that you would go to if you wanted to talk about how to develop a curriculum, how to handle a lecture, how to use audio-visual materials, how to assess the progress of a pupil, how to assign grades, how to handle a discipline problem, how to get along with other teachers, how to get along with your superiors or other similar problems.

On the following pages are the names of the professional staff at Nova High School. To the right of each name is a box. These boxes are to be checked if this is a person that you talk to about how to get your job done as a teacher. Please take your time and be complete.

ALL RESPONSES ARE CONFIDENTIAL

FOR THIS SET OF QUESTIONS, CHECK THE "YES" BOX IF THE STATEMENT DESCRIBES YOUR PLANS: CHECK THE "NO" BOX OTHERWISE.

[NOVA HIGH SCHOOL ORGANIZATIONAL STUDY (FORM II)]

1. Think about yourself in five years. Do you expect to still be in a school setting which educates high school or younger students?

   Yes ☐ No ☐

   If your answer is "yes", go to question #2.
   If your answer is "No", go to question #5.

2. Do you still expect to be at Nova?

   Yes ☐ No ☐

   Go to question #3.

3. Do you expect to be a classroom teacher?

   Yes ☐ No ☐

   If yes, go to question #9.
   If no, go to question #4.

4. Do you expect to be an administrator?

   Yes ☐ No ☐

   Go to question #9.

5. Do you expect to be in some other area of education?

   Yes ☐ No ☐

   If yes, go to question #6.
   If no, go to question #7.

6. Do you expect to be in college teaching?

   Yes ☐ No ☐

   Go to question #9.

7. Do you expect to be working at all?

Yes ☐ No ☐

If yes, go to question #8.
If no, go to question #9.

8. Is the area you plan to be working in related to your present subject?

Yes ☐ No ☐

9. Thinking about the people that you consider to be good friends, consider both the people who work in the schools and those who don't. What percentage of your friends are here in the Nova schools? Circle the statement that best describes you.

a. Nearly all of my friends work at Nova.
b. Most of my friends work at Nova.
c. About half of my friends work at Nova and half don't.
d. Most of my friends do not work at Nova.
e. Nearly all of my friends do not work at Nova.

10. Different people find their satisfactions in life in different ways. Some people get a great deal of satisfaction from their jobs; some from sources away from their work. Below is a series of statements. Circle the one that best describes you.

a. I get nearly all of my satisfaction away from school.
b. I get most of my satisfaction away from school.
c. My satisfactions are about equally divided between school and away from school.
d. I get most of my satisfaction at school.
e. I get nearly all of my satisfaction at school.

11. There are things a teacher has to do to get her job done. The importance of these things may vary from one school to another. Below is a list of behaviors. In the column of boxes on the left, rank the behaviors according to their order of importance at Nova. Put a one (1) in the box next to the teacher behavior that is most important at Nova; a two (2) in the box next to the teacher behavior that is second in importance and so on until you have ranked all of the behaviors listed.

In the center column of boxes rank the behaviors in the order of their importance in a traditional school.

In the column of boxes on the right, rank the behaviors according to how important you think they are for really effective teaching:

	For Nova	Traditional schools	Effective teaching
a. Guiding extracurricular activities:	☐	☐	☐
b. Having individual meetings with students to discuss their work:	☐	☐	☐
c. Aiding students in their personal development:	☐	☐	☐
d. Handling discipline problems:	☐	☐	☐
e. Keeping records:	☐	☐	☐
f. Developing curriculum:	☐	☐	☐
g. Guiding small group discussions:	☐	☐	☐
h. Handing out and managing materials:	☐	☐	☐
i. Acting as a resource person when sought out by students:	☐	☐	☐
j. Giving lectures:	☐	☐	☐

FOR THE REST OF THE QUESTIONS, CHECK THE CORRECT BOX:	TRUE	FALSE
12. Because of the complexities of an innovative system, Nova teachers need more inservice training:	☐	☐
13. If inservice training is provided, it should not be mandatory:	☐	☐
14. If inservice training is provided, it should take place in the summer:	☐	☐
15. If inservice training were provided on a voluntary basis, I would not take it:	☐	☐
16. Inservice training should take place outside of school hours and in addition to the requirements set by the state to keep licenses current:	☐	☐

17. The Nova philosophy stresses individualized instruction. In talking with teachers we have found that when they use the term, individualized instruction they may mean different things. Below is a list containing aspects of the school situation which may contribute to individualized instruction. Rank them according to their importance in creating an individualized curriculum. Put a one (1) next to the statement that is most important and so on until you have ranked them all.

Now circle the identifying letter (a, b, c, etc.) of any statement containing an aspect of the educational system that you consider unimportant for creating an individualized instruction system.

☐ a. Students select the materials on which they work.

☐ b. Students progress through learning materials at their own rate.

☐ c. Teachers spend a good bit of time on individual consultation with each student.

☐ d. Students work by themselves out of the regular classroom situation.

☐ e. Many paths are available to reach the same educational objectives and the best one may be selected for each student.

NOVA HIGH SCHOOL

ORGANIZATIONAL STUDY
(Form V-T)

We are trying to find out how you think and feel about a number of important topics. In order to do this, we would like to ask you to answer some questions. There are no "right" or "wrong" answers. The best and only answer is YOUR PERSONAL OPINION. Whatever your answer is, there will be many who agree and many who disagree. What we really want is to know HOW YOU FEEL about each statement.

Read each statement carefully and mark it by circling the number which best describes how much you agree or disagree with it according to the following scale:

1. Strongly agree
2. Agree
3. Tend to agree
4. Neither agree nor disagree
5. Tend to disagree
6. Disagree
7. Strongly disagree

1. Strongly agree
2. Agree
3. Tend to agree
4. Neither agree nor disagree
5. Tend to disagree
6. Disagree
7. Strongly disagree

---

1. I would recommend Nova as a good place to work. 1 2 3 4 5 6 7

2. I would prefer to stay at Nova rather than transfer to a comparable traditional school. 1 2 3 4 5 6 7

3. Nova teachers should receive more inservice training than teachers in traditional schools. 1 2 3 4 5 6 7

4. No one really has the right to tell the teacher what to do in the classroom. 1 2 3 4 5 6 7

5. I am satisfied with the competence of my superiors at Nova. 1 2 3 4 5 6 7

6. Most of my friends at school tend to agree with me about what a good school should be like. 1 2 3 4 5 6 7

7. Teachers can keep track of students best when they are all working at the same rate. 1 2 3 4 5 6 7

8. Even when staff members are consulted about important matters, their opinions are ignored. 1 2 3 4 5 6 7

9. Every teacher should prepare her own curriculum materials. 1 2 3 4 5 6 7

10. If a person is unhappy with the Nova system, it probably makes more sense to try and find another job than to try to change the system. 1 2 3 4 5 6 7

11. Staff members at Nova get too much supervision. 1 2 3 4 5 6 7

12. Compared to the traditional system, the Nova teacher finds that her position has been eroded. 1 2 3 4 5 6 7

13. Administration has not backed the faculty on controversial curriculum materials. 1 2 3 4 5 6 7

14. It requires more effort on my part to function in the Nova setting than at the traditional school. 1 2 3 4 5 6 7

15. What is expected of the teacher is much less clear at Nova than at the traditional school. 1 2 3 4 5 6 7

16. When I came to Nova I was well prepared to function in this situation. 1 2 3 4 5 6 7

17. The relationship among staff members tends to be more satisfying at Nova than at the traditional school. 1 2 3 4 5 6 7

18. The administrators usual response to staff members who complain is to suggest that the person should find a school they like better. 1 2 3 4 5 6 7

1. Strongly agree
2. Agree
3. Tend to agree
4. Neither agree nor disagree
5. Tend to disagree
6. Disagree
7. Strongly disagree

---

19. It is legitimate for my immediate superiors to supervise my professional behavior. 1 2 3 4 5 6 7

20 The Nova individual progress system is no substitute for a teacher-led classroom learning situation. 1 2 3 4 5 6 7

21. Innovation is stressed at the expense of tried and true methods. 1 2 3 4 5 6 7

22. A good teacher in the traditional system is likely to be a good teacher at Nova. 1 2 3 4 5 6 7

23. The staff members at Nova get enough supervision. 1 2 3 4 5 6 7

24. While administrators pay lip service to the statement that staff members' ideas are welcome, they really want to run things themselves. 1 2 3 4 5 6 7

25. My philosophy of education is the same as the Nova philosophy. 1 2 3 4 5 6 7

26. The extra effort that it takes to make the Nova system function produces results that make the extra effort worthwhile. 1 2 3 4 5 6 7

27. The best way to get anything done is to do it without asking anyone. 1 2 3 4 5 6 7

28. One of the characteristics of a high quality educational system is that students are responsible for many important decisions. 1 2 3 4 5 6 7

29. The traditional system individualizes instruction as much as the Nova system. 1 2 3 4 5 6 7

30. When staff members know that another staff member is incompetent, nothing of consequence is said about it to the higher ups. 1 2 3 4 5 6 7

31. On the whole, the approval of other staff members is more important to me than the approval of my superiors. 1 2 3 4 5 6 7

32. I am satisfied with the amount of structure in the Nova system. 1 2 3 4 5 6 7

33. When a staff member suggests an innovation different from the kinds being used at Nova, it is likely that the idea will be ignored. 1 2 3 4 5 6 7

34. Administration tends to ignore a teacher's classroom performance unless the teacher does something controversial. 1 2 3 4 5 6 7

35. Most staff members agree with the Nova philosophy. 1 2 3 4 5 6 7

1. Strongly agree
2. Agree
3. Tend to agree
4. Neither agree nor disagree
5. Tend to disagree
6. Disagree
7. Strongly disagree

---

36. Most teachers are well equipped to teach in the Nova system. 1 2 3 4 5 6 7

37. A student at Nova accomplishes more than the same student would at another school with comparable teachers and facilities. 1 2 3 4 5 6 7

38. There is no substitute for a warm interpersonal relationship between the teacher and student. 1 2 3 4 5 6 7

39. The way to get ahead at Nova is to agree with your superiors. 1 2 3 4 5 6 7

40. The teacher has as much freedom at Nova as they do in the traditional school. 1 2 3 4 5 6 7

41. If it weren't for the additional pay, most teachers would not stay at Nova. 1 2 3 4 5 6 7

42. The traditional system is really highly individualized, since the teacher spends a great deal of time making sure that all students keep up. 1 2 3 4 5 6 7

43. The Nova system does not function as well as the traditional system for students who are not highly motivated. 1 2 3 4 5 6 7

44. Nova is a satisfactory place for teachers. 1 2 3 4 5 6 7

45. The Nova system maximizes my opportunity to be creative on the job. 1 2 3 4 5 6 7

NOVA HIGH SCHOOL

ORGANIZATIONAL STUDY
(Form VI-T)

These questions will allow you to express your opinions about things as they are at Nova. In order that we may be quite clear as to what you mean, please be specific in your answers. As an example, one question asks that you give what you consider the two greatest disadvantages of working at Nova. It might be that you considered your relations with other teachers a disadvantage, however, if you simply write "teachers" as a disadvantage, we would be unsure whether you were referring to the competence level of teachers, your personal relations with them or something else. Please be specific, so that we will be certain as to what you mean.

On the next page you will find a number of questions. Below each one is a space. Put your responses in these spaces.

1. Many people, after they enter into their life's work, realize that there are other jobs or professions that they would find very attractive. If you were not a teacher, what would you like to be?

2. What satisfactions do you think you would obtain from this alternative vocation?

3. What things about this alternative vocation would you not like?

4. What satisfactions do you get from being a teacher?

5. What things about being a teacher do you not like?

6. If you had it to do over again, and if there were no constraints such as financial problems or other responsibilities, would you have followed this other vocation?

7. What are the two greatest advantages to working at Nova?

8. What are the two greatest disadvantages to working at Nova?

9. In every social system there are ways to get ahead. Assuming that you had no scruples and wished to get ahead in the Nova system, what would you do?

10. We have asked a great many questions about Nova in order to understand how the system works from a teacher's point of view and how teachers feel about it. What else do you feel we need to know that we haven't asked you about?

ORGANIZATIONAL STUDY

NOVA HIGH SCHOOL
(Form IX)

On the following page you will find statements describing the Nova system or the role of the teacher in the system. These statements are derived from the many interviews and conversations we've had with different people about the Nova system.

To the right of the statements, you will find two columns of boxes. The first column is headed "The Way Things are at Nova," and the second column is headed "The Way Things Should Be at Nova." First read all sixteen statements and select the one which best describes the way things are at Nova, then enter a one (1) in the first box to the right of the statement under the column headed "The Way Things are at Nova." Find the statement that next best describes the way things are at Nova and put a two (2) in the first box to the right of this statement. Proceed in this manner until you have ranked all the statements.

At this point, make sure that each box in the column headed "The Way Things Are at Nova" has a number from one to sixteen in it with no numbers used more than once. Every box in the column headed "The Way Things Should Be at Nova" should be empty.

Now consider the ideal system. If you could change Nova, how would things be? Read the sixteen statements again and select one which best describes the way things should be at Nova. Enter a one (1) in the second box to the right of the statement under the column headed "The Way Things Should Be at Nova." Find the statement that next best describes the way things should be at Nova and put a two (2) in the second box to the right of this statement. Proceed until you have ranked all statements.

ALL RESPONSES ARE CONFIDENTIAL

	THE WAY THINGS ARE AT NOVA	THE WAY THINGS SHOULD BE AT NOVA
1. Teachers know what is expected of them at Nova	☐	☐
2. Teachers gain status at Nova by developing curriculum materials.	☐	☐
3. Nova parents are satisfied with the Nova system.	☐	☐
4. Nova teachers spend considerable time on curriculum development.	☐	☐
5. Teachers spend a lot of time guiding small group discussions.	☐	☐
6. Teachers decide the content that a student should learn.	☐	☐
7. Discipline problems are handled well at Nova.	☐	☐
8. In the Nova system teachers are primarily managers of materials.	☐	☐
9. Students get lost in the Nova system.	☐	☐
10. Creative classroom teaching is rewarded at Nova.	☐	☐
11. The teacher's primary responsibility is to facilitate self directed learning by directing the student to the appropriate resources.	☐	☐
12. Teachers feel that aiding in the student's personal development is at least as important as imparting information.	☐	☐
13. Teachers spend a good deal of time in the classroom lecturing.	☐	☐
14. Administrators are interested in innovations by teachers.	☐	☐
15. Nova has good procedures for coordinating curriculum development.	☐	☐
16. Teachers are involved in policiy-making decisions.	☐	☐

	LAP* INDIVIDUALIZED CLASS																			NON-L							
OBSERVATION NUMBERS	207	208	209	213	312	233	234	238	313	251	2[illegible]0	315	255	254	259	324	325	215	326	244	261	214	319	320	216	217	218
No. of Students for whom Teacher was Responsible	24	21	25	14	49	21	29	28	29	27	23	28	41	30	32	31	35	39	49	33	23	36	24	15	19	17	22
No. of Student-Teacher Interactions	24	21	21	14	18	21	24	25	19	11	20	17	31	15	28	15	15	15	28	30	13	31	13	10	17	8	9
% of Students in Class with whom Teacher Interacted	100	100	84	100	37	100	82	89	65	40	86	60	75	50	86	48	42	38	57	90	56	86	54	66	89	47	40
Total No. of Interactions Initiated by:																											
Teacher	25	38	4	23	13	34	10	29	20	10	23	10	26	12	34	10	7	16	22	25	23	34	10	21	11	6	14
Student	36	25	24	21	15	33	51	41	10	19	16	16	33	4	9	12	18	8	26	22	10	19	25	16	25	2	-
% of Interactions Initiated by Student	59	39	85	47	53	49	83	58	33	65	41	61	55	25	20	54	72	33	54	46	30	35	71	43	69	25	0
Length of Observation (In Minutes)	59	58	46	62	40	65	56	46	28	25	25	30	55	31	70	30	29	31	31	60	38	58	50	61	37	44	52
Average No. of Interactions per Minute	.41	.36	.46	.23	.45	.32	.43	.54	.68	.44	.80	.57	.56	.48	.40	.50	.52	.48	.90	.50	.34	.53	.26	.16	.46	.18	.17

TEACHER-SINGLE STUDENT INTERACTIONS EXCLUDING BRIEF CLASS

NOVA HIGH SCHOOL

Table C-1

NON-LAP* TRADITIONAL CLASS																NON-LAP* INDIVIDUALIZED CLASS								MIXED CLASS						
320	216	217	218	308	222	223	224	225	227	314	229	230	241	265	266	201	202	203	236	316	317	318	243	211	263	206	205	240	310	311
15	19	17	22	28	29	27	30	32	30	20	22	20	42	21	113	20	20	25	32	21	26	29	27	44	32	10	23	36	37	43
10	17	8	9	16	11	12	20	19	13	20	21	16	3	18	24	17	8	19	25	19	25	20	21	39	32	10	16	19	28	23
66	89	47	40	57	37	44	66	59	43	100	95	80	7	89	21	85	40	76	78	90	96	68	77	88	100	100	69	52	75	53
21	11	6	14	16	23	7	29	24	13	43	57	28	5	18	23	17	4	16	15	23	26	17	23	34	19	9	9	7	19	21
16	25	2	-	9	3	13	4	9	12	42	19	3	2	11	8	24	9	18	25	34	39	14	8	19	28	23	15	28	40	40
43	69	25	0	36	11	65	12	27	48	33	25	9	28	37	25	58	69	52	62	59	60	45	25	35	59	71	20	80	67	65
61	37	44	52	25	24	25	24	25	25	25	34	23	15	21	51	58	21	53	30	57	60	27	22	58	65	34	40	58	65	67
.16	.46	.18	.17	.64	.46	.48	.83	.76	.52	.80	.62	.70	.20	.86	.47	.29	.38	.36	.83	.33	.42	.74	.95	.67	.49	.29	.40	.33	.43	.34

TIONS EXCLUDING BRIEF CLASSROOM CONTROL/DISCIPLINE DIRECTIONS

NOVA HIGH SCHOOL

Table C-1

	LAP* INDIVIDUALIZED CLASS			NON-LAP* TRADITIONAL CLASS						
OBSERVATION NUMBERS	279	283	287	304	305	306	292	295	296	32
No. of Students for whom Teacher was Responsible	27	30	17	30	22	23	54	29	26	2
No. of Student-Teacher Interactions	35	13	14	24	12	19	20	25	21	1
% of Students in Class with whom Teacher Interacted	77	43	82	80	54	82	37	86	80	9
Total No. of Interactions Initiated by:										
Teacher	17	2	6	20	8	13	17	58	3	4
Student	38	15	29	12	14	12	8	13	57	40
% of Interactions Initiated by Student	69	88	82	37	63	48	32	18	95	90
Length of Observation (In Minutes)	30	30	32	20	20	27	23	28	30	30
Average No. of Interactions per Minute	1.17	.43	.44	1.20	.60	.70	.87	.89	.70	.63

TEACHER-SINGLE STUDENT INTERACTIONS EXCLUDING BRIEF CLASSROOM CONTRO

NOVA ELEMENTARY SCHOOLS

Table C-2

P* TRADITIONAL CLASS			NON-LAP* INDIVIDUALIZED CLASS										MIXED CLASS
305	306	292	295	296	323	298	299	300	322	301	302	303	
22	23	54	29	26	20	35	25	27	30	9	17	5	NONE
12	19	20	25	21	19	31	8	9	17	9	17	3	
54	82	37	86	80	95	88	32	33	56	100	100	60	
8	13	17	58	3	4	7	1	5	11	24	29	16	
14	12	8	13	57	40	40	8	11	10	43	45	10	
63	48	32	18	95	90	85	88	68	47	64	60	38	
20	27	23	28	30	30	35	26	30	30	30	30	30	
.60	.70	.87	.89	.70	.63	.89	.31	.30	.57	.30	.57	.10	

INTERACTIONS EXCLUDING BRIEF CLASSROOM CONTROL/DISCIPLINE DIRECTIONS

NOVA ELEMENTARY SCHOOLS

Table C-2

	LAP* INDIVIDUALIZED CLASS																										NON-
OBSERVATION NUMBER:	207	208	209	213	312	233	234	238	313	251	250	315	255	254	259	324	325	215	326	244	261	214	319	320	216	217	218
NO. OF TIMES TEACHER INTERACTED WITH AN INDIVIDUAL STUDENT:	NO. OF INDIVIDUAL STUDENTS																										
13																											
12																											
11																											
10																											
9		1																			1			1			
8																							1				
7		1				2	1																				
6		1		1		1		2																1			
5	3	1		3		1	1	2			1	1	2										1	3	1		
4	5	1	1	2	1	4	3	3		1	2		2		1			2	3		1		1				
3	2	5	1	1	1	5	6	6		2	1	1	3		3	2	3		2	5	2	7	2		6		1
2	6	6	2	5	4	3	6	6	11	1	7	3	8	1	6	3	4	3	7	7	5	8	4	2	3		3
1	8	5	17	2	12	5	7	6	8	7	9	12	16	14	18	10	8	10	16	18	4	16	4	3	7	8	5

FREQUENCY OF INDIVIDUAL STUDENT - TEACHER INTERACTIONS*

NOVA HIGH SCHOOL

*Excluding Brief Control/Discipline Interactions

Table C-3

NON-LAP* TRADITIONAL CLASS																	NON-LAP* INDIVIDUALIZED CLASS								MIXED CLASS						
9	320	216	217	218	308	222	223	224	225	227	314	229	230	241	265	266	201	202	203	236	316	317	318	243	211	263	206	205	240	310	31
											1																				
	1																				1	1					1				1
												1																			
											1	2					1					1									
	1										1	3									1										
	3	1				1				2	2		1				1				1		1					1			3
						1	1		1		1	3	2	1			1				3	2	1				3		1	4	2
		6		1	3	1	2	2	1		3	4	1		3		4	2	3	4	2	5		2	4	3	2		2	7	2
	2	3		3	3	6	1	9	9	4	6	4	3	1	5	7	3	1	9	7	8	10	4	6	6	9	1	4	9	5	8
	3	7	8	5	10	2	8	9	8	7	5	4	9	1	10	17	7	5	7	14	3	6	14	13	29	20	3	11	7	12	7

UDENT - TEACHER INTERACTIONS* DURING OBSERVATION PERIOD

NOVA HIGH SCHOOL

Table C-3

	LAP* INDIVIDUALIZED CLASS			NON-LAP* TRADITIONAL CLASS					
OBSERVATION NUMBER:	279	283	287	304	305	306	292	295	296
NO. OF TIMES TEACHER INTERACTED WITH AN INDIVIDUAL STUDENT:	NO. OF INDIVIDUAL STUDENTS								
13									
12									
11									
10									
9									
8			1						
7								1	
6								4	1
5	1		1					1	4
4	2		2		2	1		1	2
3	6		1	2	1		1	5	4
2	6	4	2	4	2	3	3	3	4
1	12	9	7	18	7	15	16	10	6

FREQUENCY OF INDIVIDUAL STUDENT - TEACHER INTERACTIONS* DU

NOVA ELEMENTARY SCHOOLS

Table C-4

*Excluding Brief Control/Discipline Interactions

AP* TRADITIONAL CLASS			NON-LAP* INDIVIDUALIZED CLASS										MIXED CLASS
305	306	292	295	296	323	298	299	300	322	301	302	303	
												1	
											1		
										3	2		
										2			
					1								
			1							1	1	1	
			4	1						1		1	
			1	4							1		
2	1		1	2	4	2		1		1	3		
1		1	5	4	2	2		2	1		2		
2	3	3	3	4	2	6	1		2	1	5		
7	15	16	10	6	10	21	7	6	14		2		

AL STUDENT - TEACHER INTERACTIONS* DURING OBSERVATION PERIOD

NOVA ELEMENTARY SCHOOLS

Table C-4

APPENDIX D

CONTINGENCY MANAGEMENT WORKSHOP

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I. INTRODUCTION

Westinghouse Learning Corporation (WLC) as subcontractor to Nova University on the project entitled "Analysis of the Teacher's Role in an Innovative Prototype School" launched its efforts on this project with several major areas of research in mind:

(1) What is the teacher's role at the present time or in the Nova schools?

(2) How will this role change or be adjusted to educational innovations of the future?

(3) In which areas of teacher training will these changes need to be made?

(4) What is the most effective method or methods to use in bringing about these changes?

Briefly, the methodology to attack these problems is set out in the proposal as follows:

Step 1: Gather data and observe one future-oriented school system (Nova).

Step 2: Devise a model of the future teacher in terms of behavioral requirements.

Step 3: Perform a congruity analysis of 1 and 2 above, and isolate requirements as non-existant or incompatible.

Step 4: Develop teacher's training packages (preservice and inservice) that will fulfill these requirements.

Step 5: Initiate teacher training.

Step 6: Observe trained teachers in the classroom and modify accordingly.

Phase I of this project was the definitional, data-gathering stage. Step 1 was completed, the preliminary models (Step 2, above) were developed, and preliminary congruity analysis were performed (Step 3).

An attempt was made in Phase I to assume all, and any data which might ultimately be useful so as not to overlook or prejudice efforts of future phases of research. Thus, WLC with its experience and expertise in the use of instruments for data collection in other innovative type schools assisted the Nova staff in collecting data in three Nova schools. WLC experience has shown that the modified 11-point Verbal Interaction Scale developed by Flanders along with the Appraisal, Selection, Activity form developed by WLC were the most appropriate and useful instruments for use in data collection at an innovative prototype school.

As the project was designed and implemented, there was an increasing tendency to view the future role of the teacher as that of a manager of a learning environment. It also was apparent that the data gathered about this system in no way would indicate what would happen when retraining packages were ultimately initiated.

In conjunction with the research conducted during Phase I of the Nova project, a workshop package was developed to instruct inservice Nova teachers in the technology of contingency management and behavioral engineering. This course of study was not selected because it would necessarily be a component of the teacher training packages to be developed in later phases. Rather, the purpose here was to institute some unique form of teacher training and observe what happens to teachers under these circumstances. It is assumed that this exercise would reveal system constraints that will have to be taken into account during the later phases of this project. Motivation engineering was chosen because:

(1) WLC had previously prepared a similar workshop, which had been delivered to inservice teachers. Followup data had been gathered indicating where specific components of the package could be improved.

(2) An extensive amount of data have been collected on the technology of contingency management. The system has been implemented by WLC in a preschool program and in a remedial education center encompassing grades 1-12. In addition, after attending the previously mentioned workshop, teachers in various parts of the country successfully implemented the system in their classrooms.

(3) It was felt that a system of motivation management would be one of the components of classroom management with which the Nova teachers are not familiar. An opportunity to evaluate the effects of implementing an innovative system would be available.

II. DESCRIPTION OF CONTINGENCY MANAGEMENT

Behavioral researchers were developing the groundwork for a motivational system in the 1950's. By the 1960's contingency management was well defined and operational. Contingency management has its roots in reinforcement learning theory and the Premack principle,[1] which says that, "for any pair of responses, the more probable one will reinforce the less probable one." The technology of contingency management applied in a classroom is simply the management of the learning environment so that rewards (reinforcements) are contingent upon (dependent upon) the execution of certain behaviors (such as the completion of a learning task or unit). An explicit system of contracting between the student and teacher for curriculum and available time has been developed. The student selects from the prepared range of tasks for one day an order in which he will do them and what reinforcements he will use upon the completion of a prespecified degree of proficiency for each. Like the broader technology of contingency management, the rules of successful contracting are few and simple:

> Require an extremely small amount of lower probability behavior before the higher probability behavior is permitted to occur, and settle for approximations early in the game. As experience is gained in contingency contracting, the amount of task or low probability behavior demanded is gradually increased until it is a sizeable amount. But

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[1] Premack, D. Toward Emperical Behavior Laws: I. Positive reinforcement. Psychological Review, 1959, 66, 219-233.

> it should be emphasized that during the early phases of learning about contracting, the demands remain small and the payoffs prompt.

In addition to the technology of contingency management, the teacher should be aware of and know how to apply the principles of behavioral engineering. In systematically applying the principles of behavioral engineering, the teacher will increase the frequency of desirable behaviors and decrease the frequency of undesirable behaviors.

III. WORKSHOP DESCRIPTION

The Contingency Management Workshop will instruct participating teachers in the application of motivation engineering. The participants selected to attend the workshop will be taught how to establish and operate a contingency-managed classroom and how to apply the principles of behavioral engineering within the classroom environment. The workshop will last 3 weeks: 5 days per week, 8 hours per day.

Four levels of simulation have been developed as the instructional method. Three of the four levels of simulation from the lowest to the highest are as follows:

(1) Cognitive., At this level, the participants will be assigned reading materials describing the principles of behavioral engineering and contingency management. In addition, they will observe a contingency-managed classroom in operation.

(2) Role Playing. At this level, the participants will be provided with the opportunity to apply the components of behavioral engineering in structured role-playing situations. In addition, they will practice making contracts with students in the contingency-managed classroom.

(3) Operating the Contingency-Managed Classroom. At this level, the participants will take over the operation of the contingency-managed classroom.

The fourth level of simulation will be in operation throughout the workshop. This level involves running the workshop itself according to the contingency management system. Participants will be required to take a prescriptive examination and to arrange contracts in accordance with the results of that examination. An opportunity to engage in reinforcing events will be provided upon the successful completion of each contracted instructional segment.

To successfully operate the workshop as it is designed, it will be necessary to have available an operating contingency-managed class. This class will be established as a remedial program in mathematics. Fifteen students will be selected from the elementary school level and 15 from the high school level. The class will be operated by two members of the WLC staff, and will begin operation 1 week prior to the opening of the workshop. It will end at the same time as the workshop. (For a list of materials to be used, see (Section Two, Page 21).

IV. INSTRUCTIONAL SEQUENCE

The detailed course schedule is in Section Two. The schedule contains objectives, the instructional sequence, and instructional media. Prior to the opening of the workshop, teachers from the Nova school system will be selected to attend, and each teacher will be evaluated according to the Behavior Criterion Scale (Section Three). In addition, they will be required to complete an Attitude Inventory (Section Three).

Upon entering the workshop, the participants will take a Prescriptive Examination (Section Three). Depending on the results of the examination, each participant will be given a Prescriptive Guide (Section Four), which will designate his individual instructional sequence. On the basis of the Prescriptive Guide, the participants will begin preparing the Contract Sheet (Section Four), page 111) specifying the task, materials, amount of task, and amount of time spent in engaging in a reinforcing event. Successful completion of a task will be determined by a grade of 90% on a progress check. (Section Five contains all the progress checks with the exception of those bound within other materials, such as Mager's Preparing Instructional Objectives.) In addition to progress checks, the participants will be given a unit test upon completion of Terminal Objectives I and II (Sections Three and Five). The unit test for completion of Terminal Objective III will consist of evaluation of participants' performance in operating the "mini" class (Section Three). Evaluation will be made according to the behaviors listed on the Behavior Criterion Scale, Part II (Section Four).

Evaluation of performance upon completion of Terminal Objectives IV and V will not be tested per se, but will be based on the performance itself. The final test for the course will be the same as the Prescriptive Examination.

In addition to the materials found in the appendices listed above, a number of other materials have been generated to correspond with specific activities in the course schedule. (These materials can be found in Section Four). A complete list of the materials to be used in the workshop is contained in Section Two.

The appropriateness for presenting a workshop in contingency management as outlined in this report to Nova teachers is indicated by the results obtained from the data analysis conducted during Phase I of the project. For a description of the research findings, see the conclusions and recommendations covered in the data analysis section, Final Report I (Data Collection), Analysis of the Teacher's Role in an Innovative Prototype School.

SUB-SECTIONS

NOVA CONTINGENCY MANAGEMENT WORKSHOP

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Progress Checks

SECTION ONE

INSTRUCTOR'S GUIDE

INSTRUCTOR'S GUIDE: NOVA CONTINGENCY MANAGEMENT WORKSHOP

I. INTRODUCTION

The following guide is to be used in conjunction with the course schedule, and it outlines general procedures to be used in running the workshop.

The "mini" class frequently referred to in the course schedule is the "mini" EAC program which will be established one week prior to the beginning of the workshop. Two members of the Westinghouse Learning Corporation staff will be assigned to set up the EAC and will run it throughout the workshop. Two additional members of the staff will instruct the workshop participants. The estimated time for running the workshop is three weeks.

II. GENERAL INFORMATION

Progress checks follow all instructional reading materials with the exception of the Case Studies in Behavior Modification. Progress checks for some of the materials, i.e., "Contingency Contracting" and Preparing Instructional Objectives, are contained within the books. The former material is required, but serves as an RE (reinforcing event) in that students may choose to read any chapter they wish.

Workshop students will be given record sheets containing prescriptive test scores and scores from all other tests. The instructor may wish to keep the same sheets in his own records file. In addition, each student will be supplied with his own Prescriptive Guide, which he will use to fill out his contract sheet.

Reinforcing events for participants include:

(a) coffee breaks

(b) discussions with instructors

(c) pay checks

(d) optional reading materials

(e) leaving early

(f) talking with one another

(g) etc.

It is mandatory that all instructors read the materials before conducting the workshop.

III. ORIENTATION

A. Pre-Workshop Assessment of Students

1. The Behavior Criterion Scale will be used to evaluate students' performance as classroom managers before they attend. This will have to be completed during the school year.
2. Students should return the attitude inventory forms and their descriptions of how they currently run their classroom prior to the beginning of the workshop.

B. Administration of Prescriptive Test

Preferably, each section of the test should be administered separately, i.e., students should complete Section I-A and return it, I-B and return it, and I-C and return it. All of Section II can be completed at once.

During the time that the students are attending the orientation lecture (hopefully delivered by someone other than a workshop instructor), the instructors should grade the tests and fill out the Student Diagnostic Profile and Test Score Sheet. If students score less than 90 percent correct on any section, students will be routed through the instructional sequence. For routing purposes, instructors will complete a Prescriptive Guide form for each student. To fill out this form, the instructor should determine which test items were missed and correlate those with the items on the Prescriptive Guide form. If any item in any section of the guide form is missed, the instructor will place a check mark in the area indicated on the Prescriptive Guide.

All students will be assigned to complete the instructional action in sections called General Requirements. Depending on sections checked on the Prescriptive Guide, students will be instructed how to fill out their contract sheets. This should be done on an individual basis.

IV. TERMINAL OBJECTIVE I

A. Enabling Objective A

Instructors should be prepared to discuss any of the definitions or chapters from Analysis of Behavior.

B. Enabling Objective B

Instructors should be prepared to discuss any of the reading materials. For students who appear to be having problems, specific chapters of *Case Studies in*

Behavior Modification should be assigned. Reading materials should be completed prior to the behavior-shaping game.

1. Behavior-Shaping Game
    a. Instructors should explain that a behavior to be shaped will be chosen and that hand clapping is the reinforcer. The "guinea pig" is sent from the room, students are told what behavior is to be shaped, the "pig" returns, and the behavioral engineer shapes the specified behavior.
    b. Students may break up in groups of four or five and "play" the game. Each student should play the role of experimentor and role of guinea pig.
    c. Evaluation sheet should be used by students as they once more observe the instructors "play" the game. (See Supplementary Materials for Objective I-A-5.)
    d. Again a discussion session can follow to discuss evaluation sheets.
2. Observation of the "Mini" Class

   Students should be required to simply "take a look" at what is going on. An RE discussion session, preferably conducted by instructors of the "mini" class" should follow. This provides the students an opportunity to ask questions, etc.

3

C. Enabling Objective C

1. Evaluation of Diana Film and the "Mini" Class

   a. The film can be shown twice. The first time, it can be shown straight through, while students and instructors complete the evaluation form. (See Supplementary Materials for objective I-C-2.) Following the first showing, students can have the opportunity to discuss evaluation forms. The second showing should serve to point out the examples noted on the forms.

   b. Observation of the "mini" class should take place while it is being operated by the Westinghouse Learning Corporation instructor. No more than two students should observe at the same time. The workshop students should use the same form ~~that~~ they used for the Diana film in evaluating the "mini" class. When the form is completed, the observers should meet with one of the workshop instructors to discuss their evaluations.

2. Role Playing Session

   Students, preferably 10 or more per group, should participate. Whoever is chosen to play the role of the teacher may choose any topic he wishes for discussion. Instructors should participate in the role of students who are very bad -- noisy, obnoxious, etc. The classroom manager should be able to get the class under control. Following each session, at least three, a discussion should follow to point out how the manager "goofed" or how he excelled, or both. Hopefully, there will be examples of good and poor management. (Use Evaluation Form for Objective I-C-2.)

3. Instructional Sequence

Instructional sequence items 3 and 4 for this objective are self-explanatory. Students who do not pass Unit Test I at 90%+ should be required to attend a discussion session in which the test items and problem areas can be discussed.

V. TERMINAL OBJECTIVE II

A. RE Discussion

RE discussion sessions should be made available following completion of any of the instructional materials.

Students who successfully answered the prescriptive test items covering instructional objectives will not be required to read Mager's book or look at the film strips.

The PRIME film will not be progress checked.

B. Contracting Roles

Groups of five students should participate in the contracting role playing sessions. Each student in the group should play the role of the manager. He should make any kind of contract he wishes. Upon completion of one round, students should evaluate the contract according to the rules of contracting specified in "contingency contracting." If all the contracts are correctly made, the instructor should play the role of manager and make incorrect contracts. The students should be able to specify why the contracts are incorrect and how they can be corrected.

C. Observations

Observation of the "mini" class should be done by no more than two students at one time. After discussing with the regular instructors the activities going on at that time, the students will practice making contracts with the "mini" class students.

D. Discussion Session

Students who do not pass Unit Test II with a score of 90%+ should be required to attend a discussion session where test items and problem areas can be discussed.

VI. TERMINAL OBJECTIVE III

A. Contingency-Managed Classroom

Preparation for running a contingency-managed classroom may be based on any subject matter area. Probably one instructional unit corresponding to what they have taught in the past will be sufficient. They should:

(a) construct behavioral objectives.
(b) specify the corresponding materials.

(c) specify the tasks.

(d) construct tests.

In addition they should explain:

(a) how they will set up RE and task areas.

(b) what RE's will be made available.

(c) how they will control the RE's and time spent in the RE area.

In addition, they should explain how they will orient students to the C/M classroom.

B. "Mini" Class

The procedure for running the "mini" class is clearly stated in the course schedule. After having practiced running the "mini" class and discussed the evaluations, each pair of students will once more be evaluated as classroom managers of the "mini" class by the workshop instructors. Evaluations will be made according to Part II of the Behavior Criterion Scale.

VII. TERMINAL OBJECTIVE IV

Students who have problems in satisfactorily completing the essay responses will participate in a discussion session. A comparison will be made of the responses made in this section with the responses on the attitude inventory made prior to their attendance at the workshop. The discussion session should include the pre-workshop items.

VIII. TERMINAL OBJECTIVES V

At least 25 typewritten descriptions of how the students have managed classrooms in the past should be available.

After students have completed enabling objectives A1-3, they will be able to discuss with instructors their own particular problems in implementing the system. They may also discuss their implementation plans with other students.

The final examination will be the same as the prescriptive test.

SECTION TWO

REQUIRED MATERIALS AND COURSE GUIDE

MATERIALS AND SUPPLIES REQUIRED FOR NOVA CONTINGENCY MANAGEMENT WORKSHOP

I. Instructional Materials

A. Papers and Manuals

	No. of Copies	No. of Pages
1. "What Behavioral Engineering Is", Homme.	25	18
2. "Consideration of Motivation Management," Homme.	25	9
3. "PRIME-General Model for Instructional Systems", Tosti.	25	17
4. "Contingency Contracting: A System for Motivation in Education", Homme	25	85
5. "Procedures for Establishing a Contingency Managed Classroom", WLC	25	38
6. "The Premack Principle Practically Applied", Addison	10	
7. "Uses of the RE Menu in a Contingency Management System", Addison & Holder	10	8

8. "The RE Menu", Addison and Homme (Reprint from NSPI Journal).	10	1
9. "Instructional Management: A Defined Role for the Teacher", Chadwick. NSPI Journal.	10	
10. "Contingency Management", Homme.	10	14
11. "Contingency Management and Motivation", Homme (Reprint from NSPI Journal)	10	3
12. "Contingency Management on the Psychiatric Ward; Homme & C'de Baca	10	8
13. "Control of Coverants: The Operants of the Mind", Homme (Reprint from the Psychological Record)	10	11
14. "Frequency Theropy: A Special Case of Contingency Management", Homme	10	24
15. "A Technology for Behavior Management of Oneself and Others", Homme	10	41

	No. of Copies	Cost
B. Textbooks		
1. The Analysis of Behavior, Skinner & Holland (paperback).	25	
2. Child Management: A Program for Parents, Smtih and Smith.	25	
3. Case studies in Behavior Modification, Ullman & Krasner.	10	
4. Operant Behavior: Areas of Research and Application, Honig.	5	
5. Preparing Instructional Objectives, Mager.	25	
C. Films and Filmstrips		
1. "Teaching Verbalization by Contingency Management".	1	
2. "Terminal Objective Learning".	1	
3. "Selecting Educational Objectives"	1	
4. "Selecting Appropriate Behavioral Objectives"	1	

D. Tests and Answer Sheets

1. Prescriptive-Post Test	50	32
2. Unit Test 1	25	8
3. Unit Test 2	25	8
4. Progress Checks: 25 Copies of 14 progress checks	350	36
5. Behavior Criterion Scale	75	3
6. Attitude Inventory Form	25	1

E. Supplementary Materials

1. Student Diagnostic Profile and Test Score Sheets	50	3
2. Student Contract Sheets	200	1
3. Definitions for Terminology	25	3
4. Form for Analysis of Behavior Shaping	100	1
5. Form for Evaluation of Diana Film and "Mini" Class	300	2
6. Behavior Criterion Scale (Part II)	200	2
7. Descriptions of Students Who Prefer Academic to Non-Academic Activities	25	1

8. Descriptions of Classrooms with Time Constraints.	25	2
9. Descriptions of Students Who shift tasks.	25	2
10. Descriptions of How Others have Implemented the System.	25	
11. Descriptions of How Workshop Teachers Managed their Classrooms Before Workshop (25 copies of each description).	500	
F. Projectors		
1. 16 mm. Projector	1	
2. Filmstrip projector	1	
G. Instructors's Guide	10	7
H. Course Schedule	30	17
I. RE Materials (does not include optional reading materials.)		
1. Coffee		
2. Doughnuts		

MATERIALS FOR REMEDIAL MATH CLASS

1. Addison-Wessley
    - Addition
    - Subtraction
    - Multiplication
    - Division
2. EVCO Story Problems
    - Word Problems
    - Round Numbers
    - Multiple Choice
    - Estimating
    - Geometry
    - Graph Reading
    - Operations
    - Equations
3. Teaching Machines Inc.
    - Addition and Subtraction
    - Multiplication and Division
    - Fractions
    - Decimals
    - Algebra I
    - Algebra II
    - Algebra Refresher
4. TEMAC Trigonometry

COURSE SCHEDULE FOR C/M WORKSHOP

Objectives	Instructional Sequence *	Instructional Media**
Orientation:		
Given a contingency managed classroom, students will be oriented as to their role as students in a contingency managed classroom and will operate as students in this environment by contracting for tasks, taking progress checks, and engaging in reinforcing events.	1. Students will take the prescriptive test. 2. Students will attend a lecture which will provide them with an overview of the course content.	1. Prescriptive test 2. Lecture content will consist of the following: a. Explanation of behavioral engineering b. Explanation of contingency manag ment c. Explanation of their role in a C/M classroom d. Explanation of h they will progres through the cours (1) the reading materials (2) the establish EAC type prog ("mini" class (a) observati of "mini' class (b) participa tion in t operatio of an ongoing sys tem (3) role playing

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* Throughout the entire workshop, instructors will be available for either individual or group discussions. These discussion sessions will be provided either as reinforcing events or for remediation.

** A bibliography of optional materials is attached at the end of the course schedule.

Objectives	Instructional Sequence	Instructional Media
	3. Students will receive their diagnostic profile sheets which will indicate prescriptive test scores and areas of weakness and strength. The students will be oriented to the use of their contract sheets and prescriptive guide. They will demonstrate understanding by filling out their first contract using their prescriptive guide.	3. Student record shee 4. Prescriptive tests 5. Student contract sheets 6. Prescriptive guide

Objectives	Instructional Sequence	Instructional Media
I. Behavioral Engineering Terminal Objective: Given the components of learning and reinforcement theory as these apply to behavioral engineering, TSWBAT recognize definitions of the relevant terminology and recognize and describe applications of the principals involved.		
A. Enabling Objective: Given the following list of terms and multiple choice definitions, TSWBAT choose the correct definition for each term. 1. Stimulus 2. Response 3. Positive Reinforcement 4. Shaping 5. Successive Approximations 6. Differential Reinforcement 7. Stimulus Control a. S^D b. S^Δ 8. Incompatible Responses 9. CRF Schedule of Reinforcement 10. VR Schedule of Reinforcement 11. Extinction 12. Punishment 13. Learning 14. Performance	1. Trainees who do not pass section I-A with a 90+ score will contract to read materials which will provide an introduction to the terms.	1. List of definitions taken from the test items. 2. *The Analysis of Behavior** Skinner and Holland (a) Chapter II (b) Chapter IV (c) Chapter V (d) Chapter VI (e) Chapter XI * A progress check has been written for each chapter.
B. Enabling Objective: Given the following components of behavioral engineering and multiple choice descriptions of the effects of the component on behavior, TSWBAT choose the correct effect.	1. Trainees who do not pass section I-B or I-C with a 90%+ score will contract:	

Objectives	Instructional Sequence	Instructional Media
	(a) to read materials which will provide them with descriptions of the effects of behavioral engineering on behavior; (b) engage in behavior shaping, and (c) observe behavioral engineers in the "mini" class.	
	The instructional materials to be read are listed in the adjacent column.	1. The Analysis of Behavior*, Skinner and Holland (a) Chapter II (b) Chapter IV (c) Chapter V (d) Chapter VI (e) Chapter XI 2. "What Behavioral Engineering Is,"* Homme 3. Child Management,** Smith and Smith 4. Case Studies in Behavior Modifications Ullman & Krasner. (Preferred chapters will be read as a reinforcing event.) 5. Operant Behavior: Areas of Research and Application,* Honig: Summary of Chapter 9. * Progress checks have been written. ** Progress check will be every fourth item on answer sheet.

Objectives	Instructional Sequence	Instructional Media
1. Establishing stimulus control a. S^D b. S^Δ 2. Positive reinforcement of a response 3. Shaping a terminal response a. Determining criterion steps towards terminal responses b. Differential reinforcement c. Reinforcing successive approximations 4. Reinforcing incompatible responses 5. Extinction of undesired responses 6. Punishment of undesired responses a. conditions under which punishment is effective b. conditions under which punishment is not effective 7. Schedules of reinforcement a. continuous reinforcement (CRF) schedule of reinforcement (1) conditioning a response (2) maintaining a response b. Variable ratio (VR) schedule of reinforcement (1) conditioning a response (2) maintaining a response	Participation in shaping behavior will consist of the following sequence: (a) Students will observe classroom instructors "play" the behavior shaping game. (b) Students will "play" the behavior shaping game themselves. (c) Students will once more observe instructors "play" the game and evaluate the components of behavioral engineering which are operating. Observation of the "mini" class will consist of simply observing. Reinforcing event group discussions will be made available.	4. Behavior Shaping Game 5. Checklist of component operating in shaping behavior.
C. Enabling Objective: Given descriptions of isolated human behaviors, or behaviors in the context of a group and the components listed in enabling objective I-B, TSWBAT describe when the principals of behavior were correctly applied, incorrectly applied, and what changes should be made to correctly apply behavioral principals.	2. Students who do not pass pre-test section I-C with a score of 90%+ will observe and evaluate a film, the C/M classroom and participate in a role-playing session.	

Objectives	Instructional Sequence	Instructional Media
	Evaluation of the film and the "mini" class will consist of identification of: (a) If and when stimulus control is established. (b) If and when correct responses are reinforced. (c) If and when incorrect responses are reinforced. (d) If and when incorrect responses are extinguished. (e) If and when correct responses are extinguished. (f) If the process of shaping a behavior is correctly carried out. The Role Playing session will involve one of the students playing the role of classroom manager while other students play the roles of students in a classroom, some of whom are behavior problems.	1. Film: Teaching Verbalization by Contingency Managemen (Diana Film) 2. Evaluation Form for film.

Objectives	Instructional Sequence	Instructional Media
	3. Students will shape a behavior of another student in the classroom and write a description of the process and results. 4. On completion of sequence prescribed for terminal objective I, students will take Unit Test I.	

Objectives	Instructional Sequence	Instructional Media
II. Contingency Contracting Theory-Terminal Objective:		
Given the specific components of a contingency managed classroom, the student will be able to list these and describe the use, effects, and interaction of these components on the behavior of students in a classroom.	1. Students who do not pass all of pretest section II with a 90%+ score will contract to read the materials listed in the adjacent column which correspond to the enabling objectives.	
A. Enabling Objective: TSWBAT define and describe the Premack principle in terms of: 1. reinforcing responses and reinforcing stimuli. 2. high probability behaviors versus low probability behaviors		1. "What Behavioral Engineering Is,"* Homme 2. "Consideration of Motivation Management." 3. "PRIME - General Model for Instructional Systems,"* Tosti 4. Terminal Objective-Learning (Prime film) * Progress checks have been written.
B. TSWBAT describe and give examples of reinforcing events in terms of: 1. reinforcing stimuli 2. reinforcing responses 3. reinforcing event menu 4. reinforcing event area		

Objectives	Instructional Sequence	Instructional Media
C. TSWBAT define and describe the rules of contingency contracts in terms of: 1. immediate reward 2. reward of small approximations 3. reward frequently with small amounts 4. reward accomplishment rather than obedience 5. reward performance after it occurs 6. fairness of contract 7. clearness of contract 8. honesty of contract 9. positiveness of contract 10. systematic use of contract		"Contingency Contracting: A System for Motivation Management in Education,"' Homme. * Progress checks are within the program.
D. TSWBAT apply the rules of contracting in criticizing hypothetical situations in which: 1. reward is delayed over a period of time 2. a large amount of a hard task is followed by small reinforcement 3. a large amount of an easy task is followed by large reinforcement 4. a large amount of an easy task is followed by small reinforcement 5. reward precedes the task		
E. TSWBAT describe the types of contracts in terms of: 1. manager-controlled contracts 2. student-controlled contracts 3. transitional contracts		

Objectives	Instructional Sequence	Instructional Media
F. TSWBAT describe the instructional sequence in terms of: 1. task identification (behavioral objectives) 2. selection of materials to correlate with the tasks 3. diagnosis of individual student level by means of: a. prescriptive tests b. progress checks c. unit tests 4. a task area	1. Students will participate in role playing sessions where they will practice making contracts. 2. Students will observe the "mini" class and practice making contracts with individual students. 3. On completion of sequence prescribed for Terminal Objective II, students will take Unit Test II.	1. "Procedures for Establishing a contingency managed classroom."* 2. Preparing Instructional Objectives, Mager.** 3. Filmstrips: Educationa Objectives and Selecti Appropriate Behavioral Objectives. * Progress checks have been written for each major section. ** Progress checks are within the book.

Objectives	Instructional Sequence	Instructional Media
III. Applied Contingency Management-Terminal Objective:		
Given the ability to define and describe the components of learning and reinforcement theory and the components of a contingency managed classroom, the student will be able to apply both in establishing and operating a contingency managed classroom according to the following:		
A. Select a specific subject matter area and: 1. identify the major tasks that constitute the curriculum. (construct behavioral objectives) 2. specify material appropriate to the tasks. 3. divide the curriculum into task units. 4. specify appropriate tasks. 5. provide a task area. 6. provide an RE area. 7. identify existing, feasible, and useful RE's. 8. design methods of controlling available RE's. 9. determine time to be allotted for RE's.	1. For purposes of preparing to run a contingency managed classroom, students will prepare materials, etc., in accord with objectives III-A and III-B.	1. Flowcharts and instructional materials from Procedures for Establishing a Contingency Managed Classroom (Ibid.) 2. Text and test materials which students will obtain from outside sources and which would be appropriate to the curriculum chosen for the classroom which they design. Materials may be those used by the school system.
B. Measure student progress by: 1. establishing the criteria for determining progress. 2. providing diagnostic tests, progress checks, and unit post-tests.		

Objectives	Instructional Sequence	Instructional Media
C. Do the following when the students arrive in the classroom: 1. orient them to the contingency management system 2. give a prescriptive test 3. specify students' entry level on a diagnostic profile 4. establish contracts with the students 5. reinforce appropriate oral responses and behaviors 6. extinguish inappropriate behaviors and extinguish incorrect oral responses 7. shape students behaviors by reinforcing successive approximations to the terminal response 8. recognize and remedy contract malfunctions	1. Students will run the "mini" class. Students will be assigned to work in groups of four. Two students will operate the classroom, while the other two observe and evaluate. Criteria for evaluation will be Part II of the Behavior Criterion Scale. In addition, the instructors in the workshop will evaluate those running the classroom according to the same criteria. 2. Each group will participate in a discussion session with one of the instructors to discuss evaluations, ask questions, etc. 3. The Unit test for Terminal Objective III will consist of instructor evaluation of how the students manage the "mini" class. Workshop instructors will use appropriate items from the Behavior Criterion Scale.	1. Behavior Criterion Scale - Part II

Objectives	Instructional Sequence	Instructional Media
IV. Philosophy of Learning-Terminal Objective: Given a list of objectives to the contingency managements system, the student will be able to defend the system by applying the principles of learning and reinforcement theory.		
A. Enabling objectives: 1. TSWBAT explain why and how extrinsic reinforcement is a means of developing and maintaining instrinsic motivation. 2. TSWBAT explain why a reinforcing event menu may be a helpful device. 3. TSWBAT describe how an individualized instructional system benefits student progress. 4. TSWBAT describe how punishment may increase the probability of an undesired student response. 5. TSWBAT describe how an effective contingency management system can positively effect student learning rate. 6. TSWBAT describe how frequent progress checks benefit both the teacher and the student. 7. TSWBAT describe why approximations to the correct response should be reinforced rather than only reinforcing the final correct response.	1. Students will write essay responses to enabling objectives IV A1-14.	1. Any text lecture, or discussion sources which have been presented in the workshop.

Objectives	Instructional Sequence	Instructional Media
8. Given the statement that the contingency managed classroom in a synthetic or mechanistic environment, TSWBAT (a) support the statement and (b) refute the statement.		
9. TSWBAT describe why the contingency managed classroom is not a form of immoral control of human behavior.		
10. TSWBAT describe how the contingency managed classroom provides the teacher with more opportunity to become (a) a guidance specialist, (b) a more positive role model for her students, and (c) more sensitive to individual student needs.		
11. Given examples of student behaviors where academic activities are preferred to non-academic activities, TSWBAT describe various contracts which can be made depending on the specific teacher objectives.		2. Descriptions of students who prefer academic to non-academic activities.
12. Given examples of classrooms where the time constraints are such that it is difficult to implement the contingency management system, TSWBAT describe alternatives that would enable the system to be implemented.		3. Descriptions of classroom situations where time constraint appear to prohibit use of the C/M system

Objectives	Instructional Sequence	Instructional Media
13. Given an example of a student who shifts from one learning task to another before completing any one task, TSWBAT describe how the contingency management system can be used either to adapt to the student's behavior or change the student's behavior. 14. TSWBAT describe how undesirable behaviors can be eliminated even when the cause of the behavior is unknown.		4. Description of students who shift from one task to another.

Objectives	Instructional Sequence	Instructional Media
V. Implementation Design-Terminal Objective:		
Given mastery of the cognitive and practice in the application of reinforcement and learning principles and the contingency management system, the student will have developed an implementation plan for a motivationally sound instructional classroom.		
A. Enabling objectives		
1. Given a written description of how he currently manages his own classroom, TSWBAT critique it in terms of previously learned theory.	1. Students will follow sequence prescribed in objectives VA 1-5.	1. Previously written descriptions of how teachers manage their own classroom.
2. Given a written description of the ideal model, TSWBAT critique the model in terms of practicality for use in his own classroom environment.	2. There will be no Unit test covering Terminal objectives IV and V.	2. Descriptions of the ideal model as described in "procedure
3. Given written descriptions of how others have adapted the system, TSWBAT critique these in terms of theory.	3. On completion of the entire instructional sequence, the students will take the final examination.	3. Descriptions of how others have adapted the C/M system.
4. Given his own classroom, TSWBAT describe how he will implement the contingency management system in his own classroom.		
5. Given peer descriptions of implementation plans, TSWBAT critique these in terms of theory and practicality.		4. Peer descriptions of implementation plans.

BIBLIOGRAPHY OF OPTIONAL MATERIALS

Addison, R. The Premack Principle Practically Applied.

Addison, R. and Holder, S. Uses of the RE Menu in a Contingency Management System.

Addison, R. and Homme, L. E. The RE Menu.

Chadwick, Clifton. Instructional Management: A Defined Role for the Teacher, NSPI Journal, February, 1968.

Homme, L. E. Contingency Management Newsletter, Section on Clinical Child Psychology, Division of Clinical Psychology, APA, 1966, V (4).

Homme, L. E., and Tosti, D. T. Contingency Management and Motivation. NSPI Journal, 1965, IV (7), 14-16.

Homme, L. E. and C'de Baca, Polo. Contingency Management on the Psychiatric Ward.

Homme, L. E. Control of the Relaxation Operant.

Homme, L. E. Coverant Control Therapy: A Special Case of Contingency Management.

Homme, L. E. A Technology for Behavior Management of Oneself and Others.

SECTION THREE

UNIT TESTS, BEHAVIOR CRITERION SCALE, PRE-TESTS, AND ATTITUDE INVENTORY

BEHAVIOR CRITERION SCALE

PART I: yes...... +1 Of: ____________________

no....... -1 By: ____________________

unknown.. 0

Score **Statement**

_____1. Within a specific subject matter area, the teacher has prepared objectives. She may do this for one unit at a time or for the entire course.

_____2. Materials have been selected which closely correlate with the objectives.

_____3. Prescriptive tests prepared to correlate with the objectives.

PART II: Almost always........ +2 Less often than could.. -1

More often than not.. +1 Almost never........... -2

Unknown or unsure.... 0

_____4. Upon completion of an assigned task by the student, his cognition is tested against a predetermined criterion.

_____5. Students exceeding a predetermined break-point being allowed time for a Reinforcing Event (RE).

_____6. Students not exceeding break-point do more work before engaging in RE.

_____7. Upon conclusion of RE time, students return to the next specified task and repeat items 2,through 5.

PART II - continued

_____8. Successive approximations to the desired task level are rewarded when task is of new dimension or type.

_____9. There are present a reasonable large and varied range of events, presumably reinforcing, available to the students.

____10. Students are able to select their own reinforcing event (without any limitations or subject to the conditions of item 7).

____11. Students move through the contingency management system with smoothness, indicating practice and understanding thereof.

____12. Students verbalize fluently and accurately the contingency management system.

____13. Students order their own tasks in a manner they prefer.

____14. Grading criteria and test results are generally known to the students as they work.

____15. A separate area for reinforcing events exists. (Interpret scale here to indicate degree of separation achieved and the physical limitations of the classroom).

____16. A separate area for tasking is provided.

____17. Students in the task area remain busy and quiet.

____18. Progress checks are available and used.

____19. Unit tests are available and used.

____20. A method of specifying the contract is available and used.

____21. An RE menu is available and used.

____22. Teacher reinforces proper responses and behavior.

____23. Teacher extinguishes improper student responses and behaviors.

PART II - continued

____24. Teacher recognizes contract malfunctions.

____25. Teacher remedies contract malfunctions.

Name______________________ Date________________

ATTITUDE INVENTORY

Answer the following questions on separate papers. Your answers may be as short or as long as you care to make them. Please try to use examples as often as possible to clarify your point. You may make them up or use your experience.

1. What is your definition of learning?
2. Why do some students fail in school?
3. Do you feel that some students simply cannot learn? Why or why not?
4. In your own opinion, explain why individuals learn to like some things and learn to dislike others. For example, why is it that some students thoroughly enjoy school, others tolerate it, and other thoroughly dislike it. Why is it some people enjoy the opportunity to try new foods while others don't. Think of your own examples as well as those above when you answer the question.
5. If you had the opportunity to create an optimal learning environment for your class, how would you do it? In answering this question, assume that there are no limitations; physical, monetary, administrative, etc.
6. Describe why punishment seems to be very effective in some cases and completely ineffective in others. For example, why does a child learn not to touch a hot stove but persist in playing with wall sockets? Again, think of your own examples in answering the question.
7. Describe your role as a teacher and any changes you would like to make in your role.
8. On a separate paper, describe how you currently run your classroom. Your description should include the following points. (If possible, please have this section typed)
    a. Your method of deciding what you are going to teach.
    b. How you decide what materials to use.
    c. Your method of evaluating student progress.
    d. Your method for handling the slower students and the faster students.
    e. Your method for handling behavior problems.
    f. Your method of encouraging students.
    g. What you do to try to make your students enjoy school.
    h. An example of your daily schedule.

Name____________________

Date____________________

PRE- TEST QUESTIONS FOR NOVA C/M WORKSHOP

I_{A_1} A stimulus can be defined as:

_____a. any physical event or condition, including the organism's own behavior, that may have an effect on the organism's behavior.

_____b. anything that follows a reinforcer.

_____c. a drug that increases physiological activity.

_____d. a form of energy which reacts to a given type of receptor.

I_{A_2} A response can be defined as:

_____a. any trained or untrained behavior the organism does.

_____b. any act which precedes a stimulus.

_____c. a particular part of the environment that serves as a signal.

_____d. a consequence of behavior.

I_{A_3} Positive reinforcement is:

_____a. a way of training an organism to make a response by terminating a stimulus.

_____b. a way of presenting an aversive stimulus which results in the increase of responses.

_____c. presentation of an event to an organism which will increase the frequency of a response.

_____d. the presentation of a stimulus to an organism which results in the decrease of responses.

$^{I}A_4$ Shaping can be defined as:

_____a. the tendency to see a unit segregated from its environment.

_____b. establishment of a trait directly opposed to an unconscious trend of behavior.

_____c. reinforcement of small elements of behavior until the terminal response is achieved.

_____d. reinforcement of the development of mature behaviors.

$^{I}A_5$ The term "successive approximations" is used in conjunction with:

_____a. the following of one item by another, especially in a series.

_____b. reinforcing small but progressively more difficult elements of behavior.

_____c. a method that employs the saving in the learning of B as a result of practice with A.

_____d. the interval between application of a stimulus and the beginning of the subject's response.

$^{I}A_6$ Differential reinforcement is the:

_____a. presentation of reward X when one behavior is emitted and the presentation of reward Y when another response is emitted in the presence of one stimulus.

_____b. procedure of reinforcing a response in the presence of one stimulus and withholding reinforcement in the presence of other stimuli.

_____c. reinforcement pattern traditionally reserved for classical conditioning experiments.

_____d. the schedule of reinforcement typically associated with temporal response conditioning.

I_{A_7} A discriminative stimulus (S^D) is:

(a) _____a. the cue stimulus that signals the termination of reward conditions.

_____b. a stimulus that terminates the response to a set of stimuli.

_____c. the stimulus that sets the occasion for a response which will be followed by reinforcement.

_____d. the stimulus which the organism perceives in the stimulus array.

I_{A_7} An S - delta (S^{Δ}) is:

(b) _____a. something that prods the organism to greater effort.

_____b. a stimulus which, if applied following a response, decreases the response frequency.

_____c. a stimulus which sets the occasion for reinforced responses.

_____d. a stimulus that sets the occasion for an incorrect response which will not be reinforced.

I_{A_7} To gain stimulus control of a response, one should:

(c) _____a. reinforce the desired response when it is emitted in the presence of the stimulus selected to set the occasion for that response.

_____b. make sure that only one response occurs in the presence of several stimuli.

_____c. reinforce all stimuli that occur in the presence of a response.

_____d. punish all responses except the desired response in the presence of the stimulus selected to elicit that response.

$^{I}A_{8}$ Incompatible responses are those that:

_____a. can be arranged in the order of probability in which they will be elicited in a certain situation.

_____b. make changes in the stimulating situation that serve the need or motive pattern of the organism.

_____c. are interchangeable from one response class to another

_____d. cannot take place at the same time, though either might be emitted in the same stimulus situation.

$^{I}A_{9}$ A continuous reinforcement (CRF) schedule:

_____a. rewards every response that is emitted after a prespecified period of time.

_____b. rewards every response that is emitted

_____c. rewards every response in terms of a temporal interval

_____d. rewards every response in terms of the variability of responses.

$^{I}A_{10}$ On a variable ratio (VR) schedule of reinforcement:

_____a. reinforcers are presented following responses that occur after an interval of time varying from a few seconds to six minutes.

_____b. reinforcers are presented following responses that occur after a varying number of responses have been emitted.

_____c. reinforcers are presented following some variable period of time and number.

_____d. reinforcers are presented following some fixed number of responses.

$^{I}A_{11}$ Extinction is defined as the:

_____a. process by which stimuli are eliminated.

_____b. process of withholding of reinforcement after a response has been emitted.

_____c. process of conditioning by which the reward precedes the response.

_____d. process by which responses come to be emitted more frequently.

$^{I}A_{12}$ The operational definition of punishment is:

_____a. a stimulus that leads to a state of unhappiness.

_____b. the termination of an aversive stimulus which leads to an increase in frequency of a response.

_____c. the presentation of a stimulus following a response that reduces the probability of that response occurring again.

_____d. the presentation of an aversive stimulus which leads to an increase in response frequency.

$^{I}A_{13}$ Learning is:

_____a. the measurable change in behavior preceded by chains of stimulus-response pairs.

_____b. an observable, gradual change in the acquisition of a new response.

_____c. the measurable outcome of a series of stimulus events leading to a terminal response.

_____d. an unobservable relatively permanent change in behavior which comes about as a result of reinforced practice.

$^{I}A_{14}$ Performance is:

_____a. the unobservable intervening variable from which learning is inferred.

_____b. the practice of demanding progressively higher quality response patterns of the organism.

_____c. the emission of unobservable covert responses which gradually yield to the final terminal response.

_____d. the immediately, observable change in behavior from which learning is inferred.

I_{B_1} A student whose parents are college graduates has observed them underlining and writing in their textbooks. In imitation of his parents, the student also marks in books -- textbooks, library books, all books. The teacher wishes to change his behavior so that he marks only in his own personal books. In order to gain stimulus control she chooses the books that are discriminative stimuli for writing and those that are the S-deltas for writing. The parents agree to establish her plan at home. Parents and teacher reinforce the student appropriately.

It is likely that if the teacher and parents persist in carrying out the plan:

_____a. the student will show no change in his behavior.
_____b. the student will begin to mark in the library books.
_____c. the student will praise his parents for marking in textbooks.
_____d. the student will mark only in his own personal books.

I_{B_2} The teacher decides to positively reinforce one of the students each time he looks at her.

As a result of the teacher carrying out this plan:

_____a. the teacher is likely to become very frustrated.
_____b. the student is likely to begin looking at her with increasing frequency.
_____c. the student is likely to become frightened.
_____d. the student will probably request a transfer.

$^{I}B_{3}$ In order to shape the student's behavior so that he would read more accurately, the teacher differentially reinforced successive approximations to the terminal response.

(1) In applying differential reinforcement, the teacher:

_____a. used different reinforcers for each correct response.

_____b. reinforced correct responses, but ignored incorrect responses.

_____c. reinforced alternate correct responses.

_____d. sharply criticized each incorrect response.

(2) In reinforcing successive approximations, the teacher:

_____a. probably made the student very nervous.

_____b. hindered the student's progress.

_____c. reinforced small units of progressively more difficult responses.

_____d. reinforced each response the student made.

$^{I}B_{4}$ Parents were concerned because their son kept playing with the wall sockets. They decided to reinforce an incompatible response.

By reinforcing an incompatible response, the parents:

_____a. got him to go to another part of the room and then gave him a more favored toy to play with each time he began playing with the socket.

_____b. arranged for him to take part in other more interesting activities away from the wall socket.

_____c. spanked him thoroughly and sent him to his room whenever he played with the socket.

_____d. ignored him until he became tired of playing with the socket.

I_{B_5} Johnny was the school's biggest crybaby, and none of the other students paid any attention to him. Every time the least little thing happened, he came running to the teacher for comfort. After participation in the WLC C/M workshop, the teacher decided to extinguish this behavior.

The effect of extinguishing Johnny's crying behavior was that:

_____a. since his behavior was being ignored, he quit being a crybaby.

_____b. since his teacher became more loving, he stopped being a crybaby.

_____c. he became even more disturbed and emotionally insecure

_____d. since he was punished by the teacher each time, he quit being a crybaby.

I_{B_6}(a) Place a checkmark (✓) by the situations below which describe conditions under which punishment is probably effective.

(b) Place a cross (X) by the situations below which describe conditions when punishment is probably not effective.

_____a. A student has been talking to a friend. The teacher punishes the student by making him stand in the corner. Every time he turns to look at the class, some of the students giggle.

_____b. A student is rapping his pencil on the desk while the teacher is talking. The teacher picks up a ruler and whacks the student's hand bringing tears to his eyes. She and the rest of the class then ignore him completely.

_____c. While the teacher is helping one of the students, another begins to tell jokes with his buddy. After the teacher finishes helping the student, she goes to the other two who have gone back to studying and sends both to the principal's office. She becomes even more angered as the two walk out of the room giggling and catching up with them, she tells them both to just go home for the day and threatens to call their parents.

_____d. One of the students on the playground is caught smoking. The teacher decides to ignore him. Several days later, she sees the student and gives him a long lecture on smoking. But then she begins to feel badly about having done so , and since he is really one of her better students, she asks him to help her prepare the exam for the following week and promises that he won't have to take it.

_____e. A mother sees her two-year old child in the street. Walking up behind him very quietly she suddenly swoops him up and spanks him very hard, all the time saying, "No, No! Don't go in the street!" she then puts him in his crib alone for a period of about 30 minutes.

I_{B_7} (a) The teacher chose to use a continuous reinforcement schedule on George for turning his homework in on time.

It is possible to conclude that:

_____a. the teacher was making George's behavior less resistant to extinction.

_____b. the teacher was reinforcing George every other time he turned his homework in on time.

_____c. the teacher was punishing George when he didn't turn his homework in on time, and rewarding him when he did.

_____d. the teacher was reinforcing George as he turned his homework in on time.

I_{B_7} (b) The teacher changed from using a continuous to a variable ratio schedule of reinforcement on Judy for turning her homework in on time.

It is possible to conclude:

_____a. that Judy ceased to turn her homework in as often.

_____b. that the teacher was reinforcing Judy for every third time she turned in her homework.

_____c. that the teacher was in the initial conditioning phase of trying to get Judy to turn in her homework.

_____d. that the teacher was trying to make Judy's behavior more resistant to extinction.

I_C The next section of this test consists of a description of a hypothetical classroom followed by a number of questions based on the principals of behavioral engineering. If you wish, you may read the questions before you read the story.

Miss Jones walked into the noisy classroom on Monday morning and sighed. Already the students had messed up the neat row of desks and scribbled on the blackboards.

"Oh well, here goes another week," she thought. "Students, students, STUDENTS!" and again she was screaming above the uproar. Sweet little Chris, one of the few children sitting quietly at his desk looked up and smiled. She returned the smile, and walking towards the center of the room, patted Janie's head. Janie, one of her brighter students, had neatly arranged her paper and pencil on the desk all prepared for copying the new spelling words off the board. Suddenly, Miss Jones changed direction, walked to the blackboard, erased the scribbling and began writing the spelling words. Presently she noticed that the students were beginning to quiet down -- and then WHAM! An eraser slapped against the board. She gritted her teeth and continued with her task. After a few minutes, all was quiet and she turned around and smiled at the class saying, "Good morning, you all know what to do with the words on the board. When you have finished copying them, we'll discuss the definitions."

The students continued to work quietly for a few minutes. Abe dropped his pencil on the floor, but other than that the class was quiet. Then the pencil was dropped again. Miss Jones looked up and frowned, Abe picked up the pencil -- and dropping it once more, he snickered. Miss Jones frowned at him.

"There he goes again," she thought. "That child is the bane of my existence!" Just as she was about to correct him, Chris raised his hand.

"Miss Jones, I can't see the fifth word down."

"Oh, I'm sorry Chris, it's mechanic, m-e-c-h-a-n-i-c."

Abe dropped his pencil again, but ignoring him she answered Lucy's question.

"That's a very good question, Lucy. The word minute can be pronounced two ways. Can you pronounce it both ways?"

Several students were chatting among themselves, but instead of correcting them, Miss Jones continued to answer questions from individual students. Gradually, the chattering subsided. Abe dropped a book on the floor, but no one paid any attention. For a change, the classroom seemed to be running smoothly and Miss Jones relaxed somewhat as she cheerfully began to discuss the meaning of each word on the blackboard.

After the discussion period , Miss Jones handed out the silent reading assignments prepared the night before. During this period she intended to work with Cliff on his oral reading. He was one of her brighter pupils, an early reader with excellent word attack skills. But when reading orally, he tended to skip words and phrases. She had been working with him a little each day, at first praising him for each sentence read correctly, then every two or three sentences, then whole paragraphs. She smiled at him as he came forward, book in hand.

"Well Cliff, what shall we read today?"

"I'd like to read this story on p. 42, Miss Jones."

"Fine, sit down here and we'll get started."

She smiled to herself as Cliff read the first, then the second and third paragraphs without a single mistake.

"Why Cliff, you're doing beautifully! I believe you were practicing this weekend."

Cliff looked at her, his eyes twinkling, and continued reading. He finished the four page story without a single mistake with Miss Jones murmering approval after every third or fourth paragraph.

"Cliff, you've done a marvelous job! You may return to your seat now and read any other book you'd like."

Miss Jones decided to work with him a few more days and then discontinue the daily period. However, she knew that in order to keep him responding as he was, she should continue to frequently praise his progress, but not as often.

As she glanced around the classroom, Abe caught her glance and deliberately dropped his pencil on the floor once more.

"This is ridiculous!" she thought. "Abe, come here to my desk," she said, her controlled voice betraying her anger with him.

"I've tried everything with this child! I've ignored him, I've told him not to misbehave, and I've taken away his pencil; he is simply going to have to be punished!"

A few of the others tittered as Abe walked towards the front of the room, and Bob, Abe's cohort, started tapping his fingers on the desk. She had moved Bob to the front of the room in the desk facing her. Suddenly, frustrated after her success with Cliff, she picked up the ruler and WHACK, she brought it down hard on Bob's fingers. Tears came to his eyes, but he said nothing and quickly went back to his book. The others, somewhat aghast returned to their assignments. Abe stood in front of her, looking somewhat nervous for a change. Miss Jones sat, staring back at him.

"Now, come on," she thought, shaken by her own behavior, "control yourself."

She sat looking at Abe, rapidly thinking up and rejecting each idea that came to her mind. Just at that moment the recess bell rang and the students rapidly began shoving their books in their desks. Chairs scraped, and underneath the rising noise level, she told Abe to return to his seat and remain inside during the recess period. Putting on her own coat, Miss Jones followed the remainder of her students to the playground.

Susan, with her broken arm was climbing on the jungle bars again. Her mother had specifically requested that she not do so -- at least until the arm was mended. Miss Jones racked her brain trying to figure out something else Susan might do that she would find equally enjoyable. As she watched Susan, her attention was caught by a younger group of little girls trying to play hopscotch. She chuckled to herself -- then she had an idea. Despite Susan's tomboyish behavior, she was quite a little mother and longed for a little sister.

"Susan, Susan," she called. Susan jumped from the bars and came towards her, looking a little sheepish. She knew her mother's rule.

"Susan, how would you like to help me teach those little girls over there how to play hopscotch. They are having a hard time and I'll bet you could be a better teacher of that than I could."

Susan looked over at the little kids and giggled. "Sure, Miss Jones. They really do need some help!" "O.K.! Let's see how good a teacher you are. I'll bet by the end of the week they'll be able to play almost as well as you can!"

Susan happily skipped over to the younger girls and Miss Jones returned to pondering over her problem with Abe.

When the bell rang, she waited for Susan who came rushing up to her to announce breathlessly that at least she'd taught them to draw the squares properly. Miss Jones laughed and gave her hand a squeeze as they entered the room.

"You'll make a wonderful teacher, Susan!"

Abe had remained at his desk, and looked up glowering as they entered the room. Miss Jones sighed. She still hadn't solved that problem, but she smiled as she noticed several students tossing gum in the wastebasket. At least the problem of chewing gum in the classroom had been solved, and that had really taxed her brain for a while. Then she had hit on the idea of letting them chew gum on the playground if they remembered to throw it away when they came in. She had even bought gum and distributed it during the recess period. She laughed to herself as she recalled her vigil by the trash can for the first few days ---students filing by depositing their gum.

She sighed as she called the class to order, "At least I've solved some problems," she thought, "and I suppose I'll solve the problem with Abe eventually."

I_{C_1} Establishing stimulus control:

(a) Cite one situation where stimulus control was established. Explain how this was accomplished in terms of establishing the S^D and S^{Δ}

(b) Describe a situation where Miss Jones would have been more effective in controlling the behavior of her students if she had established stimulus control.

I_{C_2} Positive reinforcement of a response:

(a) Cite at least five instances where Miss Jones positively reinforced a correct response.

(1) ____________________

(2) ____________________

(3) ____________________

(4) ____________________

(5) ____________________

I_{C_3} Shaping a terminal response:

(a) Describe where Miss Jones shaped a terminal response and how she did it.

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I_{C_4} Reinforcing incompatible responses:

(a) In what instance did Miss Jones reinforce an incompatible response?

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I_{C_5} Extinction of undesired responses:

(a) Cite five instances where Miss Jones extinguished undesired responses.

(1) ______________________________

(2) ______________________________

(3) ______________________________

(4) ______________________________

(5) ______________________________

(b) Cite at least two instances where she should have extinguished undesired responses.

(1) ______________________________

(2) ______________________________

I_{C_6} Punishment of undesired responses:

(a) Describe a situation where punishment was effective in terminating a behavior.

____

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____

(b) Describe a situation where punishment was not effective in terminating a behavior.

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I_{C_7} Schedules of reinforcement:

(a) Describe a situation in which Miss Jones used a continuous reinforcement schedule. Did she use this schedule for the purpose of conditioning or maintaining a behavior?

____

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____

(b) Describe a situation in which Miss Jones used a variable ratio schedule of reinforcement. Did she use this schedule for the purpose of conditioning or maintaining a behavior?

____

____

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____

I_{C_8} Cite at least two classroom incidents which demonstrate that Miss Jones incorrectly managed behaviors. Describe what she should have done.

(a) ____

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(b) ____

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____

II$_A$ According to the Premack principal, one would:

(a)

_____a. reinforce stimulus events with reinforcing responses.

_____b. reinforce high probability behaviors prior to emission of low probability behaviors.

_____c. arrange for a high probability behavior to follow emission of a low probability behavior.

_____d. arrange for a state of deprivation to occur prior to the conditioning procedure.

(b) Low probability behaviors are:

_____a. the same as reinforcing stimuli.

_____b. responses that an organism is not likely to emit.

_____c. behaviors that should be put on extinction.

_____d. the same as reinforcing responses.

(c) Reinforcing stimuli differ from reinforcing responses in that:

_____a. reinforcing responses follow something the organism does while reinforcing stimuli cause the organism to make a response.

_____b. there are many more reinforcing stimuli than there are reinforcing responses.

_____c. reinforcing stimuli generally have a greater value to most organisms.

_____d. reinforcing stimuli are generally something an organism likes to receive , and reinforcing responses are something the organism likes to do.

II_B (a) Reinforcing events are most accurately exemplified by which of the following lists?

_____a. candy, food, water, cookies, etc.

_____b. playing football, praise, food, watching TV, etc.

_____c. going to the dentist, having an operation, doing homework, etc.

_____d. playing football, washing dishes, chewing gum, smoking, etc.

(b) A reinforcing event menu is used primarily as:

_____a. a way of presenting the required tasks to the student.

_____b. a way of controlling responses emitted by the organism.

_____c. a way of presenting the available high probability behaviors to the student.

_____d. a way of organizing the contracts made between the teacher and the student.

(c) Upon satisfactory completion of a required task, the student:

_____a. should report to the teacher for his next low probability behavior.

_____b. may report to the differential reinforcement area.

_____c. may engage in a high probability behavior in the reinforcing event area.

_____d. should be dismissed from class for the rest of the day.

IIC
(a) In preparation for the instructional sequence the teacher should first:

_____a. prepare diagnostic tests.

_____b. prepare behavioral objectives.

_____c. prepare progress checks.

_____d. choose materials.

(b) Diagnostic tests are used for:

_____a. assessing the student's current achievement level and progress in a specified subject matter area.

_____b. assessing the student's future aptitude in a specified subject matter area.

_____c. assessing the student's personality variables as these affect his academic performance.

_____d. assessing the student's physical characteristics as those affect his academic performance.

(c) Which of the following meets the criterion for an objective stated in behavioral terms?

_____a. Given Shakespeare's plays, the student will know the plays of Shakespeare.

_____b. Given the law of magnetism, the student will understand it.

_____c. Given a standard accident report form, the student will correctly fill in each of the 20 items on the form.

_____d. Given a list of objectives, the student will evaluate each.

(d) Which of the following statements describes one of the characteristics of a behavioral objective?

_____a. A behavioral objective is a description or summary of content.

_____b. A behavioral objective is a description of an intended outcome.

_____c. A behavioral objective is a description of how the teacher will instruct the students.

_____d. A behavioral objective is a description of what the student already knows.

(e) Rewrite the following objective in behavioral terms. The student will be able to develop logical approaches to the solution of ten arithmetic problems.

____

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(f) Materials should be selected to correlate with:

_____a. the results obtained from behavioral checks.

_____b. the materials used by other teachers in the same school system.

_____c. the maturational level of the students.

_____d. the behavioral objectives.

(g) The task area is primarily where the:

_____a. students engage in their academic activities.

_____b. students participate in reinforcing events.

_____c. students engage in high probability stimulus events.

_____d. students receive their daily behavioral checks.

II D (a) To correctly apply the rules of contingency contracting, the teacher should:

_____a. frequently reinforce with small amounts successive approximations to the performance before it occurs.

_____b. reinforce perfected terminal responses with large amounts after a prespecified delay.

_____c. immediately reinforce small approximations after the response has been made after a prespecified delay.

_____d. reinforce small approximations to a response immediately and frequently with small amounts of reward.

(b) The following are examples of contingency contracts. Place a check mark beside the examples in which the contractor has correctly applied the rules of contingency contracting. (Assume that the rewards mentioned, are indeed rewarding to the student.)

_____a. If you don't finish your arithmetic, John, I'm afraid you can't go out for recess.

_____b. If you correctly read this sentence for me, you may go out for recess later on this afternoon.

_____c. If you correctly spell this word, you may erase the blackboard.

_____d. You may watch TV for five more minutes, then wash the dishes.

_____e. Johnny, please make your bed and then you may read another chapter in your book.

_____f. First read this story and then we'll see if you can go to recess.

_____g. Abe, if you are very good for the next hour, you may go to recess this afternoon.

II_E Read the following description:

Robert could be classified as a typical student. He does extremely well in arithmetic, grasping the concepts easily and quickly. He is in the top reading group, has excellent word attack skills, and enjoys reading silently. However, his oral reading is not quite up to par in that it lacks expression, and he has a tendency to skip words. His handwriting is absolutely atrocious, and to complete a handwriting exercise without several errors is a slow and painstaking process. Spelling is another difficult and laborious task. Like any other student he loves recess and is tremendously pleased with holidays. He occasionally enjoys telling the teacher about events at home and is quite content with a few spare minutes to read a comic book.

Each of the following items, based on the above description of Robert, represents incorrect contracts made with him by his teacher.

After reading each situation, choose from the multiple choice list, the answer which best describes what is wrong with the contract.

(a) Robert, if you correctly complete your three arithmetic problems this morning, you may read your comic this afternoon for a few minutes.

_____a. The reinforcer was delayed over a long period of time.

_____b. The reinforcer preceded the task.

_____c. A small amount of an easy task was followed by a large reinforcer.

_____d. A large amount of an easy task was followed by a small reinforcer.

(b) Robert, if you correctly spell the thirty new words I'm going to give you, you may go for a drink of water.

_____a. A large amount of a difficult task was followed by a small reinforcer.

_____b. The large amount of a difficult task was preceded by the reinforcer.

_____c. The reinforcer was delayed over a long period of time.

_____d. A large amount of a difficult task was followed by a large reinforcer.

(c) Robert, you read this little book to yourself, and then you may be excused from school the rest of the week.

_____a. Reinforcement was delayed over a long period of time.

_____b. A large amount of reinforcement preceded a large amount of a difficult task.

_____c. A small amount of reinforcement followed a large amount of a difficult task.

_____d. A large amount of reinforcement followed an easy task.

(d) Robert, here are sixty arithmetic problems. You have done all of them correctly before, but if you correctly do them again, you may tell me about your new kitten.

_____a. The small reinforcement preceded a small amount of a difficult task.

_____b. The large reinforcement followed a large amount of an easy task.

_____c. The small reinforcement was delayed over a long period of time.

_____d. The small reinforcement followed a large amount of an easy task.

(e) Robert, after you get your drink, I want you to spell for me the three new words I gave you.

_____a. The reinforcement was delayed too long.

_____b. The large amount of a difficult task was followed by a small reinforcement.

_____c. The small amount of a difficult task was followed by a small reinforcement.

_____d. The small amount of a difficult task was preceded by the reinforcer.

II_F The following is a list of the five major events which take place in arranging a contract.

_____a. determination of the amount of the task

_____b. determination of the amount of the reward

_____c. presentation of the contract

_____d. acceptance and performance of the contract

_____e. delivery of the reward

(a) For which of the above events is the manager responsible in a manager-controlled contract? (Place the letter(s) on the line that corresponds with the events)

____

(b) For which of the above events is the student responsible in a student-controlled contract? (Place the letter(s) on the line that corresponds with the events)

____

(c) A transitional contract involves:

_____a. student and manager participation in arranging the contract.

_____b. increasing the number of tasks per reward.

_____c. the phase during which reward is no longer specified.

_____d. student and manager participation in performance of a task.

PRE-TEST ANSWER KEY FOR NOVA C/M WORKSHOP

$^{I}A_{1}$	a.
$^{I}A_{2}$	a.
$^{I}A_{3}$	c.
$^{I}A_{4}$	c.
$^{I}A_{5}$	b.
$^{I}A_{6}$	b.
$^{I}A_{7}$ (a)	c.
$^{I}A_{7}$ (b)	d.
$^{I}A_{7}$ (c)	a.
$^{I}A_{8}$	d.
$^{I}A_{9}$	b.
$^{I}A_{10}$	b.
$^{I}A_{11}$	b.
$^{I}A_{12}$	c.
$^{I}A_{13}$	d.
$^{I}A_{14}$	d.

PRE-TEST ANSWER KEY (cont'd)

IB_1	d.
IB_2	b.
$IB_{3(1)}$	b.
$IB_{3(2)}$	c.
IB_4	b.
IB_5	a.
$IB_{6(1)}$	b., e
$IB_{6(2)}$	a, c, d
$IB_{7(a)}$	d.
$IB_{7(b)}$	d.
IC	Individual student responses

PRE-TEST ANSWER KEY FOR NOVA C/M WORKSHOP

II A	(a)	c		
	(b)	b		
	(c)	d		
II B	(a)	b		
	(b)	c		
	(c)	c		
II C	(a)	b	(e)	Individual Student Response
	(b)	a	(f)	d
	(c)	c	(g)	a
	(d)	b		
II D	(a)	d		
	(b)	c, e		
II E	(a)	a		
	(b)	a		
	(c)	d		
	(d)	d		
	(e)	d		
II F	(a)	a, b, c, e		
	(b)	a, b, c, d, e		
	(c)	a		

Date____________________

UNIT TEST I - NOVA CONTINGENCY MANAGEMENT WORKSHOP

1. Briefly define the following:

a. stimulus control ____

____

____

b. positive reinforcement __________________________________

____

____

c. variable ratio schedule of reinforcement ________________

____

____

d. differential reinforcement ______________________________

____

____

2. According to theory, how could a teacher shape students' behaviors in the classroom so that they are noisy, rowdy, and generally unmanageable?

____

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____

3. How does one go about establishing stimulus control of a response? Give an example of a behavior over which stimulus control has been or could be established.

4. Describe why punishment of a behavior does not always eliminate a response.

5. For the following questions, circle T (true) if the item is correct and F (false) if the item is incorrect.

(a) T F Presentation of a negative reinforcer increases the probability of a response occurring.

(b) T F In a discriminative operant the S^{Δ} sets the occasion for a response being reinforced if it is emitted.

(c) T F If persistent or stable behavior is generated, it is best to shift from a ratio schedule to a continuous schedule of reinforcement.

(d) T F In shaping behavior, the criterion for reinforced responses is gradually changed, and the desired response is reached by successive approximations.

(e) T F

If a conditioned reinforcer is not occasionally paired with an unconditioned reinforcer, the effectiveness of the former will decrease.

6. Assume that each morning you wish to have your students enter the classroom, go directly to their seats, and take out a clean piece of paper and a sharpened pencil in preparation for some activity. How would you go about achieving your goal?

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____

7. The teacher has told the students that they are to work quietly for the next ten minutes without any talking. Some of the students begin chatting. The teacher should ______________

____

8. When a rule has been established, a student may break the rule because:

_____a. he is testing the change in his environment.

_____b. he knows that if he breaks the rule often, it will be changed.

_____c. both

_____d. neither

9. Choose from the following the well-defined, reasonable rule.

_____a. Johnny, from now on I want you to stop playing with those kids down the street.

_____b. Jane, when you go out with Bill, I want you to sit on your side of the car, and do not allow yourself to eat too much at the movie.

_____c. both

_____d. neither

10. Choose from the following, the characteristic(s) of a good rule.

_____a. enforceable

_____b. definable

_____c. reasonable

_____d. all of these

_____e. none of these

11. A preferred method of enabling a student to learn the adaptive behaviors required of him in the school environment such as completing his work on time, wearing warm clothes during recess, etc., is to have the teacher:

_____a. constantly remind the student of what is expected.

_____b. allow the student to find out for himself what the consequences of his behavior are.

_____c. both

_____d. neither

4

12. Students often engage in testing behaviors once a rule has been established. After looking at the following chart,* specify the teacher's behaviors.

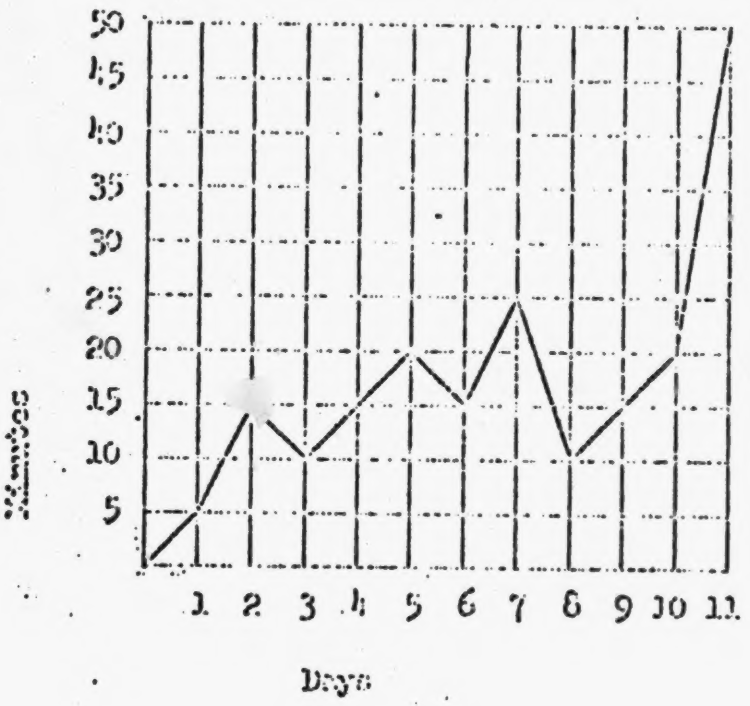
_____a. The teacher ignored the testing behavior of the student.

_____b. The teacher did not specify the rule clearly.

_____c. both

_____d. neither

*Graph Demonstrating Student Testing Behavior



13. In creating an environment in which the student can most effectively engage in learning activities, the teacher should follow which of the following models:

_____a. consistently enforce limits, act as a model for students to follow, allow students to discover things for themselves, and not specify impractical rules.

_____b. remain flexible in enforcing limits, often remind students of behaviors expected of them, ensure that students engage in behaviors which yield only positive consequences, and not specify impractical rules.

_____c. both

_____d. neither

ANSWER KEY - UNIT TEST I

1-a. The desired response is consistently emitted in the presence of a specified stimulus.

b. Any event which increases the frequency of a response occuring.

c. Reinforcement which follows the emission of some variable number of responses.

d. Reinforcement of a desired response and withdrawal of reinforcement when the response is not emitted.

2. Every time one or more students are noisy the teacher should frown, comment on their behavior, scream at them, cry, dismiss the class, etc.

3. Individual student responses should include something about reinforcing a response in the presence of the S^{Δ} , etc.

4. Punishment is not always effective because of any of the following:

   a. accompanied or followed by reinforcement
   b. not strong enough
   c. not consistent
   d. doesn't always follow the response immediately
   e. may be the only form of attention
   f. alternative responses aren't available,
   g. etc.

5-a. F

b. F

c. F

d. T

e. T

6. Individual student response should include establishing rule, differentially reinforcing successive approximations, etc.

7. ask those students to repeat the rule

8. a

9. d

10. d

11. b

12. d

13. a

____

Date____________________

UNIT TEST II: NOVA CONTINGENCY MANAGEMENT WORKSHOP

1. What is the Premack principle?____________________

____

____

2. If reinforcing events are made contingent upon a behavior, it is likely that ______________________________

____

____

3. The acronym PRIME stands for

   a. PR____________

   b. I ____________

   c. M ____________

   d. E ____________

4. Briefly describe the purpose for each of the above components of the PRIME model.

   a. ____

   ____

   b. ____

   ____

   c. ____

   ____

   d. ____

   ____

5. Which of the following are not among the rules for contingency contracting?

   ____ a. fair

   ____ b. clear

___ c. honest

___ d. positive

___ e. all of these

___ f. none of these

6. Contracting involves arranging tasks so that doing one that is:

___ a. preferred is contingent upon doing one that is less preferred.

___ b. less preferred is contingent upon doing one that is preferred.

___ c. both

___ d. neither

7. In applying contingency management in a classroom situation, it is important to specify:

___ a. the amount of the task.

___ b. the time to be spent in the reinforcing event (RE) area.

___ c. the signals indicating the beginning and the termination of the task and the RE.

___ d. all of these

___ e. none of these

8. Place in consecutive order (from low-high) the following levels of contracting, leading to self-management. Answers should be indicated in appropriate answer blanks 8-12.

a. Both the task and the reinforcement are determined by the manager alone.

b. Partial involvement of the manager in the determination of either the task or the reinforcement. The other term is fully determined by the student.

c. Equal control by manager and student. Full determination of either the reinforcement or the task by the student, but not both, or partial determination of both the task and the reinforcement.

d. Full determination of both the task and the reinforcement by the student.

e. Partial involvement of the student. The student participates by determining either the amount of reinforcement or the amount by task, but not both.

___ 8. a

___ 9. e

___ 10. c

___ 11. b

___ 12. d

13. A valuable technique enabling the teacher to make accurate judgments about student progress and for aiding the teacher in preparing diagnostic materials is:

___ a. choosing the same instructional materials for all the students.
___ b. specification of subject areas in terms of behavioral objectives.
___ c. both
___ d. neither

14. After the student completes a reading assignment, he:

___ a. should be required to successfully pass a progress check.
___ b. should proceed to the next task.
___ c. should go to the RE area.
___ d. all of these
___ e. none of these

15. Utilizing the concept of chaining, when the teacher orients students to the contingency managed class, the first step would be to:

___ a. assign the first task.
___ b. explain how to use the RE menu.
___ c. allow students to engage in an RE.
___ d. all of these
___ e. none of these

16. In order to determine a student's current level of achievement and his placement in the curriculum, the students' program begins with a series of:

___ a. conferences with his teachers

___ b. prescriptive tests

___ c. both

___ d. neither

17. The three basic types of diagnostic tests used in the contingency management system are:

a. ______________________________

b. ______________________________

c. ______________________________

18. If the teacher finds that the student has tried very hard to successfully complete the task, but seems unable to do so after two or three tries:

___ a. the student should be given a modified progress check which he can pass.

___ b. the student should be allowed to have a break before repeating the task again.

___ c. both

___ d. neither

19. When describing the students' terminal behavior in instructional objectives, the teacher should:

a. ____

b. ____

c. ____

20. Write an instructional objective.

____

____

____

____

21. Write a brief evaluation of your own performance in making contracts with students in the ongoing C/M classroom.

____

____

____

____

UNIT TEST II

Answer Key

1. Individual response should basically state that behaviors which appear to be of high probability of being emitted can be used to reinforce behaviors of a lower probability of being emitted.
2. That behavior will increase in strength.
3.
   a. prescription
   b. instruction
   c. motivation
   d. evaluation
4.
   a. Individual student response should include something about initial assessment by tests and differential assignment according to results.
   b. Individual student response.
   c. Something about keeping the S responding at a high frequency.
   d. Something about provision of feedback to the student, signal of task completion, etc.
5. e
6. a
7. d
8. a
9. e
10. c
11. b

12. d

13. b

14. a

15. c

16. b

17. a. prescriptive tests
    b. progress checks
    c. unit tests

    any order

18. a

19. a. Identify and name the over-all behavior act
    b. Define conditions under which behavior should occur
    c. Define criterion of acceptable performance

    any order

20. Individual student response - should be evaluated according to above.

21. Individual student response should correspond to instructor's evaluation.

SECTION FOUR

SUPPLEMENTARY MATERIALS

PRESCRIPTIVE GUIDE

Student's Name ______________________

TERMINAL OBJECTIVE I - BEHAVIORAL ENGINEERING

A. Definitions			Check (√) for individualized action
Prescriptive Test Items Missed		**Instructional Action**	
I-A_1	Stimulus	1. Read correct definitions from list	
I-A_2	Response	2. Read Part II-*Analysis of Behavior*	
I-A_3	Positive Reinforcement		
I-A_{11}	Extinction		
I-A_4	Shaping	1. Read correct definitions from list	
I-A_5	Successive Approximations	2. Read Part IV-*Analysis of Behavior*	
I-A_6	Differential Reinforcement		
I-A_8	Incompatible Responses		

			Check (✓) for individualized action.
A.	Definitions -- continued		
I-A_9	CRF Schedule of Reinforcement	1. Read correct definitions from list	
I-A_{10}	VR Schedule of Reinforcement	2. Read Part V-Analysis of Behavior	
I-A_7	(a) Stimulus Control	1. Read correct definitions from list	
I-A_7	(b) S^D	2. Read Part VI - Analysis of Behavior	
I-A_7	(c) S^{Δ}		
I-A_{12}	Punishment	1. Read correct definitions from list 2. Read Part XI - Analysis of Behavior	
I-A_{13} I-A_{14}	Learning Performance	1. Read correct definitions from list 2. Discuss definitions with instructor	
B & C.	Recognition and Description of the Effects of Behavioral Engineering		
	Prescriptive Test Items Missed	Instructional Action	
I-B_1	Stimulus Control	1. Read Part VI-Analysis of Behavior	
I-C_1	Stimulus Control	2. Read "What Behavioral Engineering Is"	
I-C_8	General	3. Play Behavior Shaping Game	

B & C. Recognition and Description of the Effects of Behavioral Engineering -- continued

			Check (✓) for individualized action.
$I\text{-}B_2$	Positive Reinforcment	1. Read Part II - Analysis of Behavior	
$I\text{-}B_5$	Extinction	2. Play behavior shaping game	
$I\text{-}C_2$	Positive Reinforcement		
$I\text{-}C_5$	Extinction		
$I\text{-}C_8$	General		
$I\text{-}B_3$	Shaping	1. Read Part IV - Analysis of Behavior	
$I\text{-}B_4$	Incompatible Responses	2. Play behavior shaping game	
$I\text{-}C_3$	Shaping		
$I\text{-}C_4$	Incompatible Responses		
$I\text{-}C_8$	General		
$I\text{-}B_6$	Punishment	1. Read Part VI - Analysis of Behavior	
$I\text{-}C_6$	Punishment	2. Read summary, chapter 9 - Operant Behavior	
$I\text{-}C_8$	General		

		Check (✓) for individualized action.
B & C. Recognition and Description of the Effects of Behavioral Engineering -- continued		
I-B_7 Schedules of Reinforcement	1. Read Part V - Analysis of Behavior	
I-C_7 Schedules of Reinforcement		
I-C_8 General		
General Requirements:	1. Read Child Management: A Program for Parents 2. Read chapters from Case Studies in Behavior Modification: Students have free choice of chapters. 3. Role playing session 4. Observe "mini" class 5. View film: "Teaching verbalization by contingency management" 6. Shape classmates behavior	

TERMINAL OBJECTIVE II-CONTINGENCY CONTRACTING THEORY

Prescriptive Test Items Missed	Instructional Action	Check (√) for individualized action
II-A (a, b,) - Premack Principle	1. Read "Consideration of Motivation Management." 2. Read "What Behavioral Engineering Is."	
II-A (c) - Reinforcing Stimuli and Reinforcing Responses II-B (a) - Reinforcing Events (b) - RE menu II-D (a) - Contracting Rules (b) - Contracting Rules II-E - Contracting Rules II-F - Contract Management	1. Read "Contingency Contracting: A System for Motivation Management." 2. Role playing contracts 3. Practice contracts in "mini" class.	
II-B (b) - RE Menu (c) - Task completion	1. Read "Procedures for Establishing a C/M classroom."	

Prescriptive Test Items Missed -- continued II-C (a) - Preparing for C/M class (b) - Diagnostic tests (f) - Selection of Materials (g) - Task area		Check (✓) for individualized action.
II-C (c,d,e) - Behavioral Objectives	1. Read Preparing Instructional Objectives. 2. View Filmstrips: "Educational Objectives" and "Selecting Appropriate Behavioral Objectives"	
General Requirements	1. Read "PRIME - General Model for Instructional Systems." 2. View film: "Terminal Objective Learning"	

TERMINAL OBJECTIVE III-APPLIED CONTINGENCY MANAGEMENT		Check (√) for individualized action
Pre-workshop Behavior Criterion Scale	Instructional Action	
Score less than +3, Part I	1. Prepare materials for a contingency managed classroom (See course schedule III-A, B).	
Score less than + 36, Part II	1. Operate the "mini" class. 2. Participate in discussion session following the operation of the "mini" class.	
TERMINAL OBJECTIVE IV-PHILOSOPHY OF LEARNING		
Unsatisfactory Answers from Attitude Inventory	Instructional Action	
General Requirement	1. Write essay responses to items 1-14 of terminal objective IV.	

TERMINAL OBJECTIVE V-IMPLEMENTATION DESIGN		Check (✓) for individualized action.
Pre-workshop Description of how they run their class	Instructional Action	
A C/M classroom is not described	1. Critique original description of how each student manages his class. 2. Critique ideal model in terms of practicality. 3. Critique adaptations. 4. Write implementation plan. 5. Critique other students' implementation plans.	

STUDENT DIAGNOSTIC PROFILE
AND TEST SCORE SHEETS

Student's Name: ______________________________ Date: ________

A. PRESCRIPTIVE TEST

Test Sections:	Test Scores:	Specified Weaknesses:	Specified Strengths
1. Definitions			
2. Recognition of effects			
3. Analysis of application of behavioral principles			
4. Recognition of components of contingency management			
5. Operation of C/M classroom			

Total: ____________

B. PROGRESS CHECKS

	Name of Test	Test Score
1.	Analysis of Beh.-II	
2.	Analysis of Beh.-IV	
3.	Analysis of Beh.-V	
4.	Analysis of Beh.-VI	
5.	Analysis of Beh.-XI	
6.	What Beh. Eng. Is (I)	
7.	Child Management	
8.	Operant Beh. Summary	
9.	What Beh. Eng. Is (II)	
10.	Cons. of Mat. Mgt.	
11.	PRIME--	
12.	Cont. Contr'ing I	
13.	Cont. Contr'ing II	
14.	Cont. Contr'ing III	
15.	Cont. Contr'ing IV	
16.	Cont. Contr'ing V	
17.	Procedures I	
18.	Procedures II	
19.	Procedures III	
20.	Procedures IV	
21	Prep. Instr. Obj.	

Total: ____________

C. UNIT TESTS

	Name of Test	Test Scores
1.	Unit Test I	
2.	Unit Test II	
3.	Unit Test III-Beh.	
4.	Criterion Scale	

Total: ____________

D. MISCELLANEOUS EVALUATIONS

	Poor (25%)	Average (50%)	Above Av. (75%)	Excellen (100%)
1. Behavior Shaping Paper (Obj. I-C-3)				
2. Preparations for C/M Class (Obj. III-A,B,-1)				
3. Implementation Plan (Obj. V)				

Total: ____________

E. POST TEST

Test Section:	Test Score:	Weaknesses:	Strengths:
1. Definitions			
2. Recognition of effects			
3. Analysis of application of beh. Principles			
4. Recognition of components for contingency management			
5. Operation of C/M classroom			

Total: ____________

F. TOTAL SCORES

	Name of Tests	Totals
1.	Progress Checks	
2.	Unit Tests (X 2)	
3.	Miscellaneous Evaluation (X 3)	
4.	Post-Test (X 2)	

Total Average: ____________

STUDENT CONTRACT SHEETS

Student's Name: ______________________________

Date: ______________________________ ______

Name of Task	Materials	Amount	Time for RE
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			

SUPPLEMENTARY MATERIALS: DEFINITIONS OF TERMS

Objective I-A-1

1. Stimulus:	Any physical event or condition, including the organism's own behavior, that may have an effect on the organism's behavior.
2. Response:	Any trained or untrained behavior the organism does.
3. Positive reinforcement:	Presentation of an event to an organism which will increase the frequency of a response.
4. Shaping:	Process of reinforcement of small elements of behavior until the terminal response is achieved.
5. Successive approximations:	Process of reinforcing small but progressively more difficult elements of behavior.
6. Differential reinforcement:	Procedure of reinforcing a response in the presence of one stimulus and withholding reinforcement in the presence of other stimuli.
7. Discriminative stimulus(S^D):	The stimulus that sets the occasion for a response which will be followed by reinforcement.
8. S-Delta (S^Δ):	A stimulus that sets the occasion for an incorrect response which will not be reinforced.

9.	Stimulus control:	To gain stimulus control, one should reinforce the desired response when it is emitted in the presence of the stimulus selected to set the occasion for that response.
10.	Incompatible responses:	Responses which cannot take place at the same time, though might be emitted in the same stimulus situation.
11.	Continuous Reinforcement schedule:	Schedule on which the organism is reinforced for every correct response emitted.
12.	Variable ratio schedule of reinforcement:	Schedule on which the organism is reinforced after some variable number of correct responses have been made.
13.	Extinction:	Process of withholding of reinforcement after a response has been emitted.
14.	Punishment:	The presentation of a stimulus following a response that reduces the probability of that response occurring again.
15.	Learning:	An unobservable relatively permanent change in behavior which comes about as a result of reinforced practice.

16. Performance: The immediately observable change in behavior from which learning is inferred.

SUPPLEMENTARY MATERIALS: COMPONENTS INVOLVED IN SHAPING BEHAVIOR - Obj. I-A-5

Evaluator's Name ____________________ Name of Behavioral Engineer ____________________

	Always	More often than not	Less Often than could	Never	Don't Know
1. Is a terminal response selected by the behavioral engineer?	___	___	___	___	___
2. Does the behavioral engineer reinforce all responses in the initial phase of shaping?	___	___	___	___	___
3. Does the behavioral engineer gradually shift the criterion for when a response will be reinforced so that the student is required to make responses which come closer and closer to the terminal response?	___	___	___	___	___
4. Does the S return to the stimulus conditions for which he was reinforced previously if he does not get reinforced for a new or different response?	___	___	___	___	___

Objective I-C-2

SUPPLEMENTARY MATERIALS: Form for Evaluation of Diana Film and the "Mini" Classroom.

Evaluator's Name ______________________

Evaluation of Diana Film ______________ or Ongoing C/M Classroom ________

	Yes	No	Don't Know	Give an example for each of the questions for whi you answer yes.
1. Is stimulus control of responses established?	___	___	________	1. ________ ________ ________
2. When a correct response is made, is it reinforced by the manager?	___	___	________	2. ________ ________ ________
3. Do incorrect responses get reinforced?	___	___	________	3. ________ ________ ________
4. Do incorrect responses get extinguished?	___	___	________	4. ________ ________ ________

	Yes	No	Don't Know	Give an example for each of the questions for which you answer yes.
5. Do correct responses get extinguished?	___	___	___	5. ___ ___ ___
6. Are successive approximations to the correct terminal response reinforced.	___	___	___	6. ___ ___ ___
7. In your opinion, do behaviors get shaped in the correct manner?	___	___	___	7. ___ ___ ___

Evaluator:____________________

Of:____________________

Total Score:____________________

SUPPLEMENTARY MATERIALS: Behavior Criterion Scale - Part II

Evaluation Form for Student Performance in Operating the "Mini" Class - Objective III-C-1

Evaluation Code:

Almost always........	+2	Less often than could..	-1
More often than not..	+1	Almost never...........	-2
Unknown or unsure....	0		

SCORE STATEMENT

_____1. Students order their own tasks in a manner they prefer.

_____2. A method of specifying the contract is available and used.

_____3. Upon completion of an assigned task by the student, his cognition is tested against a predetermined criterion.

_____4. Upon conclusion of RE time, students return to the next specified task.

_____5. There are present a reasonable large and varied range of events, presumably reinforcing, available to the students.

_____6. Students are able to select their own reinforcing event (without any limitations or subject to the conditions of item 4).

_____7. An RE menu is available and used.

_____8. A separate area for reinforcing events exists. (Interpret scale here to indicate degree of separation achieved and the physical limitations of the classroom).

_____9. Progress checks are available and used.

_____10. Unit tests are available and used.

_____11. Grading criteria and test results are generally known to the students as they work.

_____12. A separate area for tasking is provided.

_____13. Students in the task area remain busy and quiet.

_____14. Stimulus control of responses is established. (i.e., tasking in task area, playing in RE area.)

_____15. Teacher reinforces proper responses and behavior.

_____16. Teacher extinguishes improper student responses and behaviors.

_____17. Successive approximations to the desired task level are reinforced when task is of new dimension or type.

_____18. Teacher reinforces incompatible responses when students are behaving inappropriately.

_____19. Teacher recognizes contract malfunctions.

_____20. Teacher remedies contract malfunctions.

Date ______________________

SUPPLEMENTARY MATERIALS — OBJECTIVE IV$_{A_{11}}$

Descriptions of Students Who Prefer Academic to Non-Academic Activities.

1. Johnny is a very bright, but frail young man. Even during recess he devotes his time to reading or some other academic activity. His teacher feels he should be getting more exercise.
   Johnny's contract should be: ______________________
   ____
   ____

2. Mary is a very sweet, but extremely shy little girl with her nose constantly in a book. Her teacher wants her to learn to interact more often with the other students.
   Mary's contract should be: ______________________
   ____
   ____

3. Bill is an excellent student in every way; he is outstanding athletically and has a close circle of friends. He enjoys his academic activities immensely and is constantly working on his assignments while in class. His contract should be: ______________________
   ____
   ____

Date ______________________

SUPPLEMENTARY MATERIALS — BJECTIVES IV$_{A_{12}}$

Descriptions of Classrooms Where Time Constraints Appear to Prohibit Implementation of the C/M System.

1. Mr. Johnson, a science teacher has two lecture classes per week and one lab. During the lab period, which all the students enjoy, there is just barely time enough to complete one experiment; therefore there really isn't time for frequent RE breaks. How can Mr. Johnson implement the C/M system in his class?

2. Mrs. Williams is a remedial reading teacher who meets with her twenty students for two one-hour class periods each week. Because the students are so far behind, she feels she can't afford to allow her students to spend ten or fifteen minutes from each period engaging in some other activity. She spends each period listening to each student read. While listening to one student, the others write about what they have read. They frequently don't even finish. How can Mrs. Williams find time to implement the C/M system in her class?

3. Mr. Martin is the high school football coach. Unfortunately, he can keep the boys for practice only one hour after school each day. He would rather have them for two hours because the boys no sooner get warmed up than the practice session is over. He definitely feels that the C/M system would be impossible to implement in this situation. How could Mr. Jones implement the C/M system in his practice sessions?

Name ____________________

Date ____________________

SUPPLEMENTARY MATERIALS - OBJECTIVE $IV_{A_{13}}$

Descriptions of Students Who Shift from Task to Task.

1. Bob is a reasonably good student, but he rarely finishes one task before shifting to another. However, he usually gets all the assignments completed.

   (a) How should contracts be arranged with Bob so that he completes one task at a time?

   ____

   ____

   ____

   ____

   (b) How can the contingency management system work with Bob without changing his task behavior?

   ____

   ____

   ____

   ____

2. Louise is another student who rarely completes one task before starting on another. She is not a particularly good student and seems uninterested and listless. She rarely hears what is said to her the first time and it often seems necessary to repeat what is said several times before she understands. She is obedient and never causes trouble in the class.

   (a) How should contracts be arranged so that Louise completes one task at a time?

   ____

SECTION FIVE

PROGRESS CHECKS

____

Date____________________

Progress Check - Analysis of Behavior

Part II - Operant Conditioning: Elementary Concepts

1. When a student is reinforced for doing an arithmetic problem, the reinforcing stimulus occurs (a) __________ completion of the problem and the (b) __________ at which this response is (c) __________ increases.

2. Many traits, such as friendliness, stubbornness, and persistence are used to described people; but actually they are just another way to indicate an individual's __________ of emitting certain kinds of behavior.

3. If a mother feeds her baby when he "coos," but not when he cries, it is likely that crying when hungry would be (a) __________ because the (b) __________ is withheld.

4. Two alternatives for preventing unwanted conditioned behavior are (1) to (a) __________ it by withholding reinforcement, or (2) to condition some (b) __________ behavior.

5. A teacher frequently shows some kind of approval before providing many different types of reinforcers. A smile, a pat on the head, etc. become conditioned __________ __________.

6. If a smile or some other type of conditioned reinforcer is not occasionally paired with an unconditioned reinforcer, the effectiveness of the conditioned reinforcer will __________.

Progress Check Answer Key: Analysis of Behavior

Part II - Operant Conditioning: Elementary Concepts

1. (a) after
   (b) rate (frequency)
   (c) emitted

2. rate

3. (a) extinguished
   (b) reinforcement

4. (a) extinguish
   (b) incompatible

5. generalized reinforcers

6. decrease

____

Date ____________________

Progress Check - Analysis of Behavior

Part IV - Shaping

1. In shaping behavior, the (a) ____________ for reinforced responses is gradually changed and the desired behavior is reached by (b) ____________ ____________.
2. When differential reinforcement is used, one form or magnitude of a response is (a) ____________ while another possibly even similar response is (b) ____________.
3. Despite the fact that to be reinforced, a response first has to be emitted, it is possible to create complicated units of behavior which wouldn't ordinarily appear by the process of ____________.
4. When teaching a student to read, if the teacher indicates satisfaction with every response, no matter how poor, he (a) ____________ ____________ using successive approximation and (b) ____________ ____________ using differential reinforcement.

Progress Check Answer Key - Analysis of Behavior

Part IV - Shaping

1. (a) criterion
   (b) successive approximations

2. (a) reinforced
   (b) extinguished (not reinforced)

3. shaping

4. (a) is not
   (b) is not

Date ____________________

Progress Check - Analysis of Behavior

Part V - Intermittent Reinforcement

1. If every response is reinforced, it is being maintained by ______________ ______________.

2. The availability of reinforcement is dependent on the number of responses in __________schedules.

3. Extinction occurs most rapidly after ___________reinforcement.

4. If persistent or stable behavior is generated, it is best to shift from a (a) _______________schedule to (b) ________ reinforcement.

5. Which of the following class of schedules should be used to maintain the highest rate of responding?

_____a. variable-interval
_____b. fixed-interval
_____c. variable-ratio
_____d. continuous reinforcement

Progress Check - Answer Key

Part V - Analysis of Behavior

1. continuous reinforcement
2. ratio
3. continuous
4. (a) continuous
   (b) intermittent
5. c

Date ____________________

Progress Check - Analysis of Behavior

Part VI - Stimulus Control

1. If a response is reinforced in the classroom but not on the playground, the classroom becomes an (a) S ______ and the playground an (b) S ______________.
2. If a student has been reinforced for sitting quietly at his desk, it is possible that the desk has come to exert ________ ___________ over the student's behavior.
3. In a discriminative operant, the S^D sets the occasion for when a response may be reinforced if ________________.
4. When a response occurs in the presence of the S^D and not in the presence of the S^{Δ}, a(n) (a) __________________ has been formed and the response is under (b) _________ ___________.

Progress Check - Answer Key

Part VI - Analysis of Behavior

1. (a) S^D
   (b) S
2. stimulus control
3. emitted
4. (a) discrimination
   (b) stimulus control

Date ______________________

Progress Check - Analysis of Behavior

Part XI - Punishment

1. If a positive reinforcer is withdrawn from the student, the student has been ______________________.
2. Presentation of a(n) (a) ______________ reinforcer may decrease the (b) ________________ of responding.
3. Because the behavior of punishing children is (a) ______ by its quick effects, punishment is often repeated even though the effect (b) __________ permanent.
4. Punishment is effective in preventing the occurrence of a response if a response which (a) __________ the punished response is established. However the ______ punished response will be emitted again if the (b) ________ response is extinguished.

Progress Check - Answer Key

Part XI Analysis of Behavior

1. punished
2. (a) negative
   (b) rate
3. (a) reinforced
   (b) is not
4. (a) is incompatible with
   (b) incompatible

Date ______________________

PROGRESS CHECK:

Operant Behavior: Areas of Research and Application

Summary of Chapter 9

1. List five of the circumstances which must exist if punishment is to be effective in reducing behavior.

   a. ______________________________

   b. ______________________________

   c. ______________________________

   d. ______________________________

   e. ______________________________

2. Explain why an ordinarily punishing stimulus may not be effective in reducing a behavior.

____

____

____

____

3. Explain why some people seem to enjoy punishment.

____

____

____

PROGRESS CHECK ANSWER KEY:

Operant Behavior - Chapter 9

1. Any five of the below are correct.
   - (1) no authorized escape possible
   - (2) punishing stimulus intense as possible
   - (3) punishing stimulus should follow every response
   - (4) punishing stimulus should follow response immediately
   - (5) punishing stimulus should be introduced at maximum intensity
   - (6) avoid extended periods of punishment
   - (7) punishing stimulus should not be differentially associated with reinforcement
   - (8) delivery of punishing stimulus should signal beginning of extinction period.
   - (9) motivation to emit punished response should be reduced
   - (10) frequency of positive reinforcement for punished response should be reduced
   - (11) an alternative response to be reinforced should be made available
   - (12) access to a different situation where same reinforcement exists
2. Variables maintaining punished response are overriding the reductive effect of the punishment.
3. Only attention they get. Becomes a conditioned reinforcer.

Date ____________________

Progress Check: #1 "What Behavioral Engineering Is"

1. A behavioral engineer:

___ a. says that stimulus control exists to the extent that the presence or absence of a stimulus controls the probability of a response.

___ b. is primarily interested in approximations to two probability values of whether the stimulus controls the response; either it does or it does not.

___ c. both

___ d. neither

2. It is possible that most behavioral engineering problems are:

___ a. due to lack of reinforcers.

___ b. due to faulty stimulus control.

___ c. both

___ d. neither

3. Faulty stimulus control:

___ a. means that the _S_ has the response in his repertoire, but doesn't make the response when the stimulus is present.

___ b. can be corrected if the behavioral engineer gets the _S_ to make the response when the _S_ is attending to the stimulus.

___ c. both

___ d. neither

4. Mary is a ten year old girl who never makes her bed until her mother says, "Mary, is your bed made?" Her mother wants her to do so when she gets up in the morning.

(a) What is the faulty stimulus?

____

____

____

(b) How can Mary's mother install the discriminative stimulus?

____

____

____

5. If the S runs off the part of the behavioral chain which precedes the response giving difficulty:

___ a. the behavioral engineer can be assured that the stimulus which is to control the response is present.

___ b. the behavioral engineer can be assured that the response will be immediately reinforced.

___ c. both

___ d. neither

Progress Check Answer Key: #1 for "What Behavioral Engineering Is"

1. c
2. b
3. c
4. (a) "Mary is your bed made?"

   (b) "Mary's mother should have Mary put on her P.J.'s, set the alarm, get back in bed, have the alarm go off, and then Mary gets up and makes her bed.
5. a

Date ____________________

PROGRESS CHECK #2

"What Behavioral Engineering Is"

1. The technology of contingency management is based on:

_____a. the observation and analysis of an organism's drive states.
_____b. the determination and selection of stimuli to control responses.
_____c. both
_____d. neither

2. When reinforcing events are contingent upon a given behavior:

_____a. the behavior will increase in strength.
_____b. the behavior will decrease in strength.
_____c. both
_____d. neither

3. A good contingency manager should:

_____a. reinforce the behavior he wants.
_____b. recognize and reinforce approximations to the behavior he wants .
_____c. both
_____d. neither

4. Operant conditioners and contingency managers are the same in that both :

_____a. deal with deprived organisms.
_____b. work in the controlled environment of a laboratory.
_____c. both
_____d. neither

ANSWER KEY FOR PROGRESS CHECK #2

"What Behavioral Engineering Is"

1. d
2. a
3. c
4. d

____

Date ____________________

Progress Check - "Consideration of Motivation Management"

1. According to Premack, water functions as a reinforcer to a thirsty rat because:
   - _____a. conditions are arranged so that water satisfies a drive state.
   - _____b. conditions are arranged so that drinking is a high probability behavior.
   - _____c. both
   - _____d. neither
2. Difficulties in everyday manipulation of behaviors involve:
   - _____a. arrangement of contingencies so that the reinforcing response occurs immediately after the behavior to be reinforced.
   - _____b. arrangement of the environment so that S's are no longer annoying the manager with signals of high probability behaviors.
   - _____c. both
   - _____d. neither
3. Difficulties in behavioral control can be attributed to:
   - _____a. lack of reinforcers.
   - _____b. lack of knowledge of the principals of behavioral control.
   - _____c. both
   - _____d. neither

4. If one wishes to change a child's behavior so that he is no longer a "whiner" one should:

_____a. command him to quit whining each time he does so, and offer him something like ice cream so he'll quit.

_____b. pay attention to him when he is not whining and ignore him when he does so.

_____c. both

_____d. neither

Progress Check Answer Key - "Consideration of Motivation Management"

1. b
2. a
3. d
4. b

Name ____________________

Date ____________________

PROGRESS CHECK

"PRIME - A General Model for Instructional Systems"

1. An effective instructional system is defined:

_____a. in terms of student achievement.

_____b. in terms of ease of operation.

_____c. both

_____d. neither

2. In order for a new instructional system to be implemented:

_____a. the procedures must be made as clear and easy to learn as possible and related to a general model.

_____b. teacher training units should be developed when the system necessitates a change in teacher activities.

_____c. both

_____d. neither

3. The primary objective of the prescriptive process involves:

_____a. initial assessment of the student's characteristics in order to determine future assignments.

_____b. differential assignment of instructional units, exercises, or supplementary activities to the student.

_____c. both

_____d. neither

4. Progress checks in the contingency management system:

_____a. direct the student to the next learning sequence.

_____b. are used as a means of making further differential assignments.

_____c. both

_____d. neither

5. Human motivation is affected by:

_____a. individual emotions such as love and hate.

_____b. the consequences of behavior.

_____c. both

_____d. neither

6. The acronym PRIME refers to an educational system which uses:

_____a. prescription and motivation as two of the major components.

_____b. individualized instruction and environmental control as two of the major components.

_____c. both

_____d. neither

7. The extrinsic motivational component of the PRIME model aids in:

_____a. assuring that each learning activity involves only a small effort on the student's part.

_____b. assuring that students continue to attend and respond to the instructional events.

_____c. both

_____d. neither

PROGRESS CHECK ANSWER KEY

"PRIME - A General Model for Instructional Systems"

1. a
2. c
3. c
4. d
5. c
6. a
7. b

Name ______________

Date ______________

PROGRESS CHECK #1

Procedures for Establishing a Contingency Managed Classroom

Section I
Preparation of Materials

Check the correct answers.

1. Which of these is not one of the four steps required for preparing task materials?

_____a. identification of subject areas

_____b. breakdown of objectives into daily task units

_____c. collection of materials for subject areas

_____d. construction of the RE menu

2. Specification of subject areas in terms of behavioral objectives will help the teacher in:

_____a. making accurate judgments about the students' progress.

_____b. preparing objective diagnostic materials.

_____c. both

_____d. neither

3. Division of the subject areas into daily tasks is similar to:

_____a. specifying unit objectives.

_____b. making daily lesson plans.

_____c. both

_____d. neither

4. Materials collected to cover the instructional objectives must be evaluated for:

_____a. correspondence to objectives.

_____b. quality of content.

_____c. both

_____d. neither

5. The final step in preparation of materials is:

_____a. reorganization of the classroom.

_____b. placing materials on the shelf.

_____c. assigning materials into task units.

_____d. constructing the RE menu.

6. The 2 basic types of diagnostic tests used in the contingency managed classroom are:

a. ______________________________

b. ______________________________

7. The main purpose(s) of the diagnostic test is (are):

_____a. to offer the teacher a basis for placement

_____b. to check the quality of the materials.

_____c. both

_____d. neither

8. Two standardized tests which may be used for prescriptive purposes are:

_____a. WAIS

_____b. California Achievement Test

_____c. Flanagan Aptitude Classification Test

_____d. Stanford Achievement Test

9. Which of these statements about diagnostic test materials is true?

_____a. prescriptive test items are prepared for course objectives.

_____b. progress checks are prepared for items on daily task lists.

_____c. both

_____d. neither

10. Reinforcing events should be chosen on the basis of:

_____a. the size of the RE menu.

_____b. the number of objectives for the course.

_____c. both

_____d. neither

11. Which of these is an example of a momentary RE?

_____a. a student wants to get a drink.

_____b. a student wants to gaze out the window.

_____c. both

_____d. neither

Answer Key to Progress Check #1

Procedures

Section I
Preparation of Materials

1. d
2. c
3. b
4. c
5. c
6. (a) prescriptive tests
   (b) progress checks
7. a
8. b,d
9. c
10. d
11. c

Name ____________________

Date ____________________

PROGRESS CHECK #2

Procedures for Establishing a Contingency Managed Classroom

Section II

Preparation of Layout

1. In the RE area:

    _____a. time spent should be no less than 15 minutes.

    _____b. the teacher specifies the number of tasks.

    _____c. both

    _____d. neither

2. The task area:

    _____a. must be physically in the same room as the RE area.

    _____b. must be used only for work, when there is no separate RE area.

    _____c. should contain the instructional materials nearby.

    _____d. all of these

    _____e. none of these

3. RE time may be controlled by:

    _____a. sign-in/out sheets.

    _____b. timer clocks.

    _____c. peer pressure.

    _____d. all of these

    _____e. none of these

Answer Key Progress Check #2

Procedures

Section II
Preparation of Layout

1. d
2. c
3. d

Name ______________________

Date ______________________

PROGRESS CHECK #3

Procedures for Establishing a Contingency Managed Classroom

Section III
Management of the Classroom

1. Prescriptive tests should be administered:

_____a. after students have been oriented to the contingency managed classroom.

_____b. after explaining the test to the students.

_____c. in conjunction with collecting other possible information regarding the student.

_____d. all of these

_____e. none of these

2. If the prescriptive test shows that the student scores at the 90 percent correct level in a specific area, he:

_____a. may get an RE before he does his task.

_____b. may skip the corresponding set of tasks.

_____c. both

_____d. neither

3. Prescriptive information:

_____a. should be recorded in the students' task lists.

_____b. should be recorded in terms of overall scores and specific areas of strengths and weaknesses.

_____c. both

_____d. neither

4. With respect to each task assignment, the students' contract sheets should contain:

a. ______________________________.

b. ______________________________.

c. ______________________________.

d.

5

5. Having determined the students' prescriptive test score, the teacher should:

_____a. check its relation to the instructional objectives.

_____b. determine what the students' next task assignments should be.

_____c. identify the task materials which correspond to this score.

_____d. all of these

_____e. none of these

6. The contract stated in its most simple form is:____________

____.

7. The contract as defined above, implicitly consists of a

_______________, followed by a _______________, followed by

a _______________.

8. Decisions which the teacher must make after the student has taken a progress check include:

_____a. whether the student should go to the RE area before grading the progress check.

_____b. whether the student has successfully passed the progress check.

_____c. both

_____d. neither

9. If the student did not pass the progress check, the teacher has several courses of action open, including:

_____a. having the student go to the RE area while the teacher decides what to do.

_____b. having the student go on to the next unit.

_____c. both

_____d. neither

10. If the teacher finds that the student has tried very hard to successfully complete the task, but seems unable to do so after two or three tries:

_____a. the student should be given a modified progress check that he can pass.

_____b. the student should repeat the task.

_____c. both

_____d. neither

11. Which tasks can be used as reinforcing events?

_____a. those tasks in which the student expresses interest.

_____b. those tasks with which the student has most difficulty.

_____c. both

_____d. neither

12. Tasks, when used as reinforcing events, should:

_____a. be considered unimportant tasks.

_____b. require no progress checks.

_____c. both

_____d. neither

13. The principle on which the orientation flowchart is based is:

_____a. contract malfunction.

_____b. chaining.

_____c. individualized instruction.

14. In orientation, the teacher may:

_____a. choose one student as an example in a group demonstration.

_____b. orient each student individually.

_____c. both

_____d. neither

15. The sequence of steps in orientation is:

_____a. Task + Progress Check + Menu + RE.

_____b. RE + (Menu + RE) + (Signal + Menu + RE) + (Task + Progress Check + Signal + Menu + RE).

_____c. both

_____d. neither

Answer Key to Progress Check #3

Procedures

Section III

Management of the Classroom

1. d
2. b
3. c
4. (a) name of task
   (b) materials
   (c) specified amount
5. d
6. If you do "X" then you may have (do) "Y."
7. task, progress check, RE
8. b
9. d
10. a
11. a
12. d
13. b
14. c
15. b

Name ______________________

Date ______________________

PROGRESS CHECK #4

Procedures for Establishing a Contingency Managed Classroom

Section IV

Correcting Contract Malfunctions

1. List five symptoms of a contract malfunction:

   a. ______________________

   b. ______________________

   c. ______________________

   d. ______________________

   e. ______________________

2. The two methods of correcting contract malfunctions are:

   a. ______________________

   b. ______________________

Answer Key to Progress Check #4 - "Procedures..."

Section IV
Correcting Contract Malfunctions

1. Any five of the following:
    a. unfinished assignments
    b. complaining
    c. excessive dawdling
    d. talking and wasting time
    e. looking at the clock excessively
    f. inattention to instructions or details
    g. failure to pass more than two progress checks in a specific subject area
2. a. lengthening the contract
    b. shortening the contract